279

SERVICE MANUAL

marantz

model 4100

Quadradial 4 console amplifier

marantz

TABLE OF CONTENTS

SECTION	PAGE
Introduction	1
Service Notes	1
Selector Switch	1
Mode Switch	1
Pre-Amplifier	2
Balance Control	2
Main Amplifier	2
BTL (Balanced Transformerless) Connection	3
Power Supply Unit	3
Trouble Analysis	3
Power Amplifier Adjustment	3
Power Supply Adjustment	3
Meter Adjustment	3
Phono Amplifier Adjustment	4
Test Equipment Required for Servicing	4
Performance Verification	5
Parts List	17 ~ 25
Technical Specifications	26

LIST OF ILLUSTRATIONS

FIGURE NO.		
1.	AC Power Control Box Simplified Schematic	6
2.	Amplifier Output Load Box Simplified Schematic	7
3.	Front Panel Adjustment and Component Locations	7
4.	Main Chassis Component Locations (Top View)	8
5.	Rear Panel Adjustment and Component Locations	8
6.	Main Chassis Component Locations (Bottom View)	9
7.	Tape Mon., Hi Filter Unit Assembly P250 Component Locations	9
8.	Main·Remote Speaker Switch Unit Assembly P300 Component Locations	10
9.	Loudness Unit Assembly P350 Component Locations	10
10.	Tone Amplifier Assembly P400 Component Locations	10
11.	Vari-Matrix Unit Assembly P500 Component Locations	11
12.	Meter Rectifier Unit Assembly P550 Component Locations	11
13.	Temparature Compensation Unit Assembly P580 Component Locations	11
14.	Power Amplifier Assembly P600 Component Locations	12
15.	Phono Equalizer Amplifier Assembly P700 Component Locations	13
16.	Tone Control Unit Assembly P750 Component Locations	13
17.	Power Supply Unit Assembly P800 Component Locations	14
18.	AC Rectifier Assembly P850 Component Locations	14
19.	Balance Variable Resistor Unit Assembly P900 Component Locations	14
20.	Schematic Diagram	15, 16

INTRODUCTION

This service manual was prepared for use by Authorized Warranty Stations and contains service information for Marantz Model 4100 Solid-State Quadradial Console Amplifier.

Servicing information and voltage data included in this manual are intended for use by the knowledgeable and experienced technician only. All instruction should be read carefully. No attempt should be made to proceed without a good understanding of the operation in the circuits.

The parts list furnish information by which replacement part may be ordered from the Marantz Company. A simple description is included for parts which can usually be obtained through local suppliers.

1. SERVICE NOTES

As can be seen from the circuit diagram the chassis of Model 4100 consists of the following units. Each unit mounted on a printed circuit board is described within the square enclosed by a bold dotted line on the circuit diagram.

1. Tape Mon., High Filter Unit ..... mounted on P.W. Board, P250
2. Main-Remote Speaker Switch Unit ..... mounted on P.W. Board, P300
3. Loudness Unit ..... mounted on P.W. Board, P350
4. Tone Amplifier ..... mounted on P.W. Board, P400
5. Vari-Matrix Unit ..... mounted on P.W. Board, P500
6. Meter Rectifier Unit ..... mounted on P.W. Board, P550
7. Temperature Compensation Unit ..... mounted on P.W. Board, P580
8. Power Amplifier ..... mounted on P.W. Board, P600
9. Function Indicator Unit ..... mounted on P.W. Board, P650
10. Phono Equalizer Amplifier ..... mounted on P.W. Board, P700
11. Tone Control Unit ..... mounted on P.W. Board, P750
12. Power Supply ..... mounted on P.W. Board, P800
13. AC Rectifier ..... mounted on P.W. Board, P850
14. Balance Variable Resistor Unit ..... mounted on P.W. Board, P900

2. SELECTOR SWITCH

Signals from the PHONO jacks are applied to the phono-amplifiers and equalized to match the RIAA curve for flat frequency response.

The outputs of the phono-amplifiers and signals from the TUNER, TAPE 1, 2 and AUX jacks are led to the SELECTOR switch, S001. The SELECTOR switch selects one set of signals from PHONO, TUNER, TAPE 1, 2 and AUX jacks and sends them to the TAPE MONITOR switch and TAPE OUT jacks. The selected signals are then applied to the MODE switch, S002.

PHONO and TUNER jacks are for 2-channel input signals, that is stereo signals. AUX, TAPE 1, 2 and TAPE OUT jacks are 4-channel, that is quadraphonic signals.

3. MODE SWITCH

MODE switch S002 has positions of MONO, 2 CH, DISCRETE, VARI-MATRIX and SQ DECODER.

In the MONO position all input signals are mixed together and delivered to all four channels.

In the 2 CH position stereo signals are directly routed to the pair of front left (LF) and front right (RF) channels; the same signals at the LF and RF channels are fed to the rear left (LR) and rear right (RR) channels, respectively. When quadraphonic signals are applied to the input terminals, the LF and LR signals and RF and RR signals are separately added, thus the (LF + LR) signal is delivered to the LF and LR channels and the (RF + RR) signal is delivered to the RF and RR channels.

In the DISCRETE position the quadraphonic input signals are separately routed as 4-channel

stereophonic signals to each channel. At this position, for ordinary stereo input signals, neither LR nor RR channels no signal to carry.

In the VARI-MATRIX position, 2-channel stereo input signals are converted into quadraphonic signals through the vari-matrix circuit; the input right and left channel signals are fed directly to the LF and RF channels, while the signals to the LR and RR channels are synthesized from the 2-channel input signals under the control of the DIMENSION control.

The LR and RR channel signal components are controlled by the DIMENSION control as shown below.

DIMENSION control setting	LR output	RR output
Bottom	LF + RF	RF + LF
Center	LF	RF
Top	LF – RF	RF – LF

When the DIMENSION control is set at the bottom the LR and RR channel signals become monaural, at the center are stereophonic, and at the top are out of phase, thus providing vanished sound image positioning.

In the SQ DECODER position, "compatible stereo-quadraphonic (SQ) record" developed by CBS is ideally decoded into 4-channel signals. This requires incorporation of the adapter, Model SQA-1, into the set.

When the TAPE MONITOR switch is set to the ON position, signals from the TAPE OUT terminals are in discrete mode regardless of the MODE switch setting. In the OFF position, the signals are processed into the mode indicated by the MODE switch in the MONO, 2 CH, or DISCRETE position of the MODE switch, while signals remain in discrete mode in the VARI-MATRIX and SQ DECODER positions.

4. PRE-AMPLIFIER

Mode processed signals are led through the respective VOLUME controls to the tone control circuits. Hi and low frequency response can be varied with the BASS and TREBLE controls. These controls permit separate adjustment of front stereo pair of channels (LF, RF) and rear stereo pair of channels (LR, RR).

5. BALANCE CONTROL

Signals passed through the tone controls go into the balance control circuit, in which the signals are controlled by three balancers: the FRONT L-R, REAR L-R, and FRONT-REAR. By setting the FRONT-REAR balancer to the " FRONT " side and the FRONT L-R balancer to the " L " side, for example, only the front left (LF) channel is drived.

The balance control circuit is provided with the REMOTE CONTROL switch which makes the Model RC-4 Remote Control Box operative when the switch is set in the "REMOTE" position. In the "REMOTE" position the balancers on the Model 4100 become ineffective since signals are led to the Model RC-4. The volume can be varied by the control either on this set or Model RC-4. However, the maximum volume level available by adjustment of the Model RC4 is determined by the master VOLUME control on the Model 4100.

6. MAIN AMPLIFIER

The output signals from the BALANCE control are led to the main amplifier through the highpass filter circuit. The transistors H601 and H603 from a differential amplifier, directly coupled to the transistor H605.

The transistor H605 drives the inverters H611 and H613 which, in turn, drive the power stage consisting of H001 and H002. Transistors H607 and H609 compose a protection circuit.

The protection circuit will operate when an excessive current flows into the power transistor,

to limit current or to control the power transistors so that do not operate beyond the safety area.

In case either excessive current flows, or the load becomes almost entirely reactive, in the power stage, the transistors H607 and H609 and the diodes H622 and H624 are operated through the resistors R642 and R644, so that the power transistors are protected from damage.

7. BTL (Balanced Transformerless) CONNECTION

This power amplifier is designed to operate in either 2-channel or 4-channel modes, depending on the setting of the AMPLIFIER MODE switch that incorporates phase-conversion and power switch for BTL connection.

With this switch placed in the 25Wx4 position,this unit operates as a 25W 4 channel amplifier. With the switch placed in the 60Wx2 position, the unit operate as a 60W 2 channel amplifier, in which case, the power output is obtained only from REAR SPK terminals.

The transistor H626 convert the phase of 1 channel amplifier and 3 channel amplifier.

8. POWER SUPPLY UNIT

The power supply unit consisting of the transistors H801 and H802, operating as an automatic voltage regulator, provides +35V DC to all the amplifiers except the main amplifier.

The transistors H803, H804 and H805 operate the relay L801 that protects speakers from destruction, and has a time lag of from three to five seconds, for other transistors to work stably.

9. TROUBLE ANALYSIS

1. Excessive line consumption	a. Check for shorted H851 through H854, C003, C004. b. Check for shorted transistor H001 through H008. Check L001 for short.
2. No line consumption or zero bias	a. Check line cord, fuse, shorted H581, H582. b. Check for open rectifiers H851 through H854, or open L001.
3. Excessive hum and noise	a. Check filter capacitors C003, C004, H801, H802.
4. Parasitic oscillation	a. Check for defective C607, C608, C619, C620, C621, C622.

10. POWER AMPLIFIER ADJUSTMENT

1. Connect a VTVM between J629 and J613 and adjust the trimming resistor R628 until the VTVM reads 10mV DC. For the other channel, connect the VTVM between J630 and J614 and adjust the R629 for the same reading.
2. Connect a VTVM between J623 and J629 and adjust the trimming resistor R613 until the VTVM reads 0V DC. For the other channel, connect the VTVM between J623 and J630 and adjust the trimming resistor R614 for the same reading.

11. POWER SUPPLY ADJUSTMENT

Connect a VTVM between J802(−) and J804(+) and adjust R806 until the VTVM reads 35.0V under no signal condition.

12. METER ADJUSTMENT

1. Connect the audio oscillator to the AUX input, set audio oscillator frequency to 1KHz. Set SELECTOR switch to AUX.
2. With the distortion analyzer connected across the output load (8-ohm), set the analyzer on the 30V AC scale.

3. Apply the audio oscillator output until the distortion analyzer indicates 15V and adjust the trimming resistor R551 until the meter indicator reads +2.

13. PHONO AMPLIFIER ADJUSTMENT

1. Connect the audio oscillator to the PHONO input, set audio oscillator frequency to 1KHz. Set SELECTOR switch to PHONO.
2. Connect the distortion analyzer to the TAPE OUT terminal that is terminated by the 47K ohm, set the analyzer on the 30V AC scale and connect the oscilloscope.
3. Increase the audio oscillator output gradually until a slight clipping on top of the sine-wave is observed on the oscilloscope. Adjust the trimming resistor R708 for equal clipping level. For the other channel adjust R709.

14. TEST EQUIPMENT REQUIRED FOR SERVICING

Table 1 lists the test equipment required for servicing the Model 4100 Solid-State Quadradial Console Amplifier.

Item	Manufacturer and Model No. (or equivalent)	Use
Distortion Analyzer	Hewlett Packard, Model 331A or 333A	Measures distortion and voltage of amplifier output.
Audio Oscillator	Weston Model CVO-100P (NOTE: Less than 0.02 percent residual distortion is required.)	Sinewave and squarewave signal source.
Oscilloscope	Tektronix, Model 503; Data, Model 555	Waveform analysis and trouble shooting.
VTVM	RCA Senior Volt-Ohmyst, Model WV-98C	Voltage and resistance measurements.
AC Wattmeter	Simpson, Model 390	Monitors primary power consumption of amplifier.
AC Ammeter (0 to 10 amps)	Commercial Grade	Monitors amplifier output under short circuit condition.
Line Voltmeter (0 to 150 vac)	Commercial Grade	Monitors potential of primary power to amplifier.
Variable Autotransformer (0 to 140 vac, 10 amps).	Powerstat, Model 116B	Adjusts level of primary power to amplifier.
Shorting Plug	Use phono plug with 600 ohms across center pin and shell.	Shorts amplifier input to eliminate noise pickup.
Power Supply Bleeder Resistor (10 ohms at 1 W)	Commercial Grade	Discharges power supply filter capacitors prior to disassembly or resistance measurements.
Output Load Resistor (8Ω ± 0.5%, 100W)	Commercial Grade	Provides 8-ohm load for amplifier output termination.
Output Load Resistor (4Ω ± 0.5%, 100W)	Commercial Grade	Provides 4-ohm load for amplifier output termination.

Table 1. Test Equipment Required for Servicing

15. PERFORMANCE VERIFICATION

Test Procedure

A. Test Equipment

Refer to Table 1 for required test equipment.

B. Preliminary Procedures

1. Make the test setup shown in Figure 1 with the instrument controls set in the following positions:

Line Switch	off
Variable-line Switch	variable
Watt Meter Switch	on
Variac	0 (fully CCW)
Load	8 ohms (0.5 mfd – off)
Audio Generator	Frequency 1 KHz
Output	5V range
Gain	minimum
AC Volt Meter	30V range

2. Make sure that connections between the resistive load and the system terminals of the Model 4100 have negligible resistance compared with the resistance of the load itself. Appreciable resistance in wiring adds to the total load, resulting in inaccurate measurements of output power.
3. Connect amplifier output to load and connect AC cord to line power. Connect a shorting plug to the PHONO input jack of the model 4100.
4. Remove the top cover.

C. Total Hum and Noise Test

1. With shorting plugs connected to the AUX input jacks and a 8-ohm resistive load connected across the speaker system output terminals, connect a distortion analyzer across the load.

   NOTE: In this test and tests that follow, if distortion analyzer used does not contain a built-in voltmeter, a VTVM may be substituted.

2. Set the distortion analyzer controls for voltage measurements and apply power to the amplifier. Set the VOLUME control fully CCW. Set the SELECTOR switch to AUX and the MODE switch to DISCRETE.
3. If the distortion analyzer indicates more than 1.5mV, refer to the trouble analysis section of this manual.
4. Set the VOLUME control fully CW. If the distortion analyzer indicates more than 2mV, refer to the trouble analysis section of this manual.

D. Maximum Power Output

1. Connect the audio oscillator to the AUX input. Set audio oscillator frequency to 1KHz. Set SELECTOR switch to AUX.
2. With the distortion analyzer connected across the output load (8-ohm), set the analyzer on the 30V AC scale.
3. Turn the analyzer on and increase the audio oscillator output to 180mV, and verify the analyzer indicates more than 14.2V.

E. Harmonic Distortion Test

1. Set the frequency of the audio oscillator and the distortion analyzer to 20KHz.
2. Set the controls of the analyzer for voltage measurement on the 30-volt scale.
3. Adjust the audio oscillator output level until the analyzer meter indicates 10.9 volts.
4. Switch the distortion analyzer to Set Level – Manual mode, and adjust SENSITIVITY for full scale reading on 0-1 scale.

5. Measure the total harmonic distortion with the analyzer and verify it is less than 0.3%.
   NOTE: Any parasitic oscillation in the amplifier will be displayed on the oscilloscope, when capacitance is switched into the load.
6. Switch the distortion analyzer back to SET LEVEL MANUAL.
   (Do not adjust sensitivity of analyzer.)
7. Change the frequency of the audio oscillator and distortion analyzer to 1KHz. Adjust audio oscillator output as necessary to have a full scale reading on the 0-1 scale on the analyzer.
8. Measure the distortion, verifying it is no greater than 0.3%.
9. Repeat steps 7 and 8, changing frequency to 20Hz.
   Distortion should be no more than 0.3%.
10. Check for parasitic oscillations; there should be none.

F. Channel Separation

1. Set audio oscillator to 20KHz. Connect oscillator to front left channel AUX input only, with shorting plug (10K ohm) in all other channels AUX input. Connect distortion analyzer to front left channel speaker output terminals.
2. Adjust oscillator output until distortion analyzer indicates 0 dB (2.8V).
3. Measure RF, LR, RR channel output. Distortion analyzer should indicate -30 dB or less.
4. Repeat step 1 and 2 with substituted channel driving.
5. If indication is not less than -30 dB, adjust input wires to preamp board until reading is -30 dB or less.

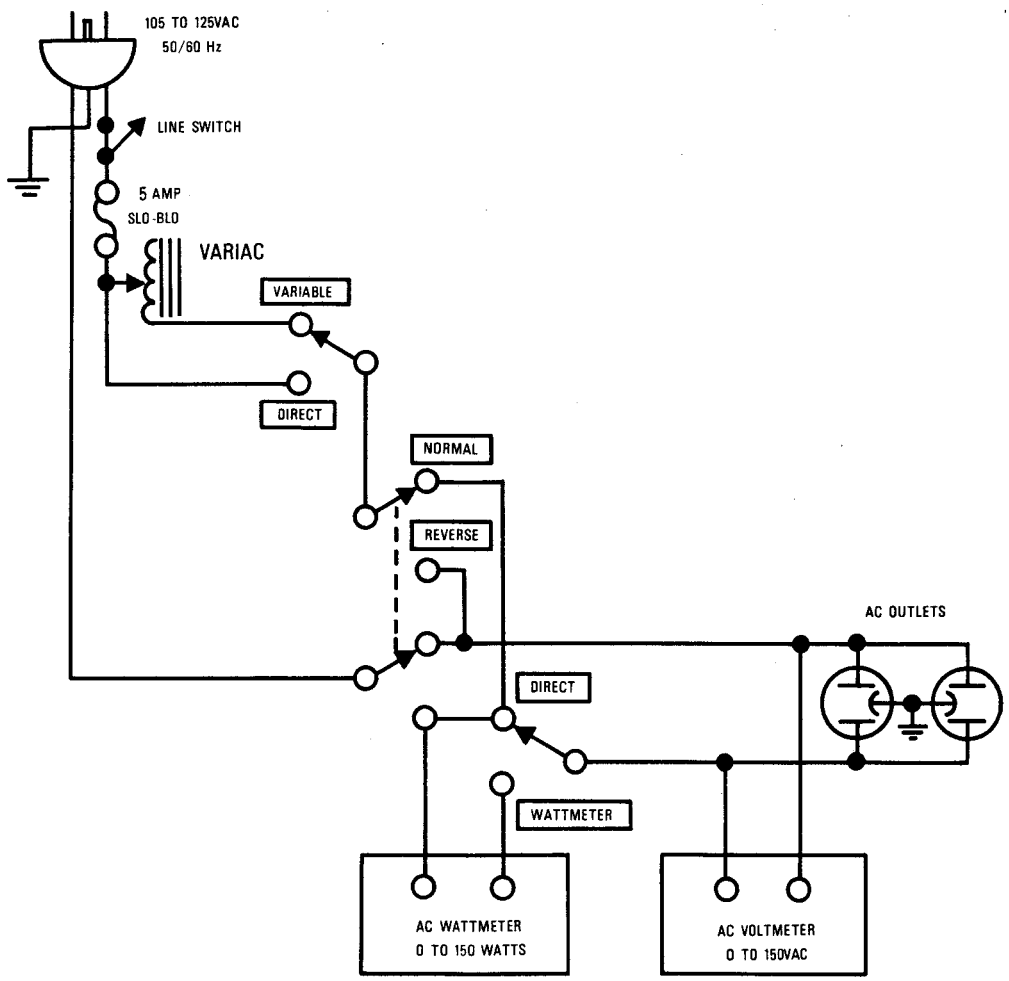


Figure 1. AC Power Control Box Simplified Schematic

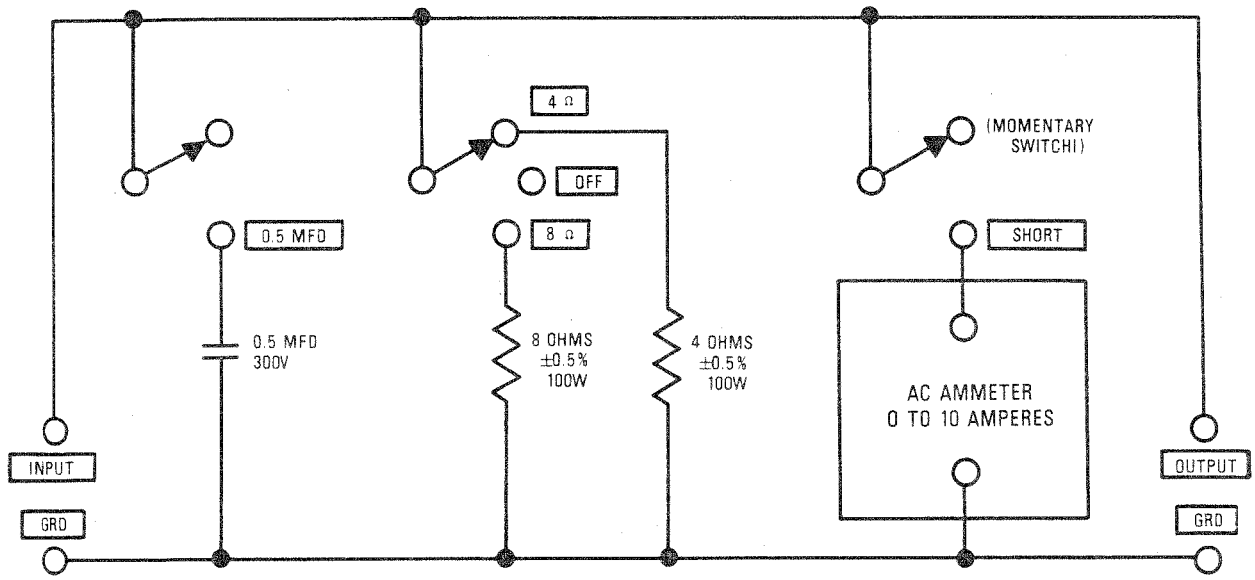


Figure 2. Amplifier Output Load Box Simplified Schematic

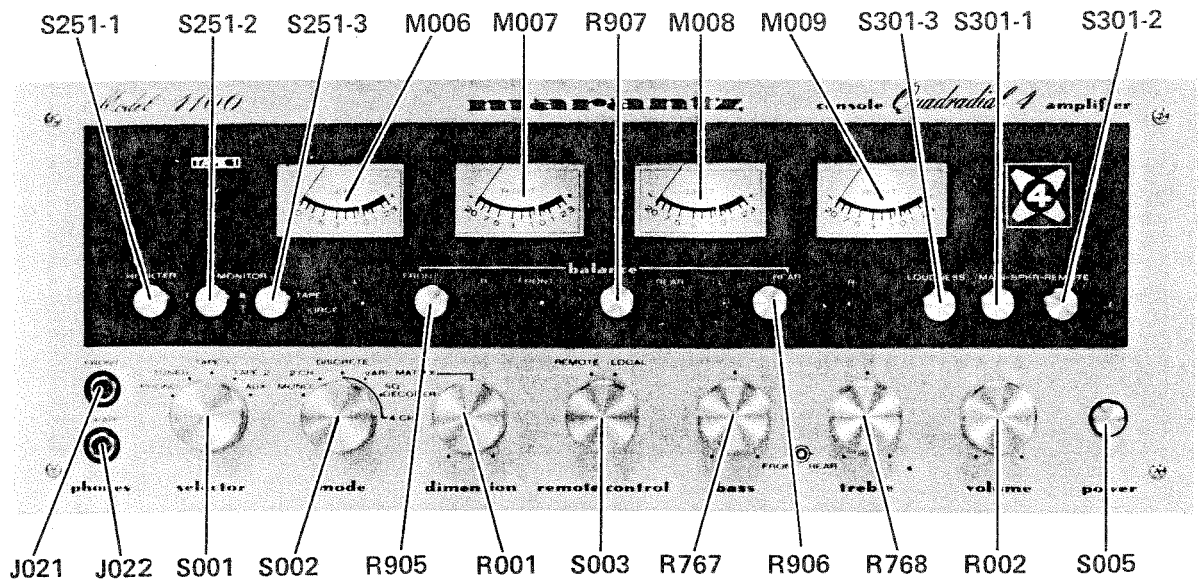


Figure 3. Front Panel Adjustment and Component Locations

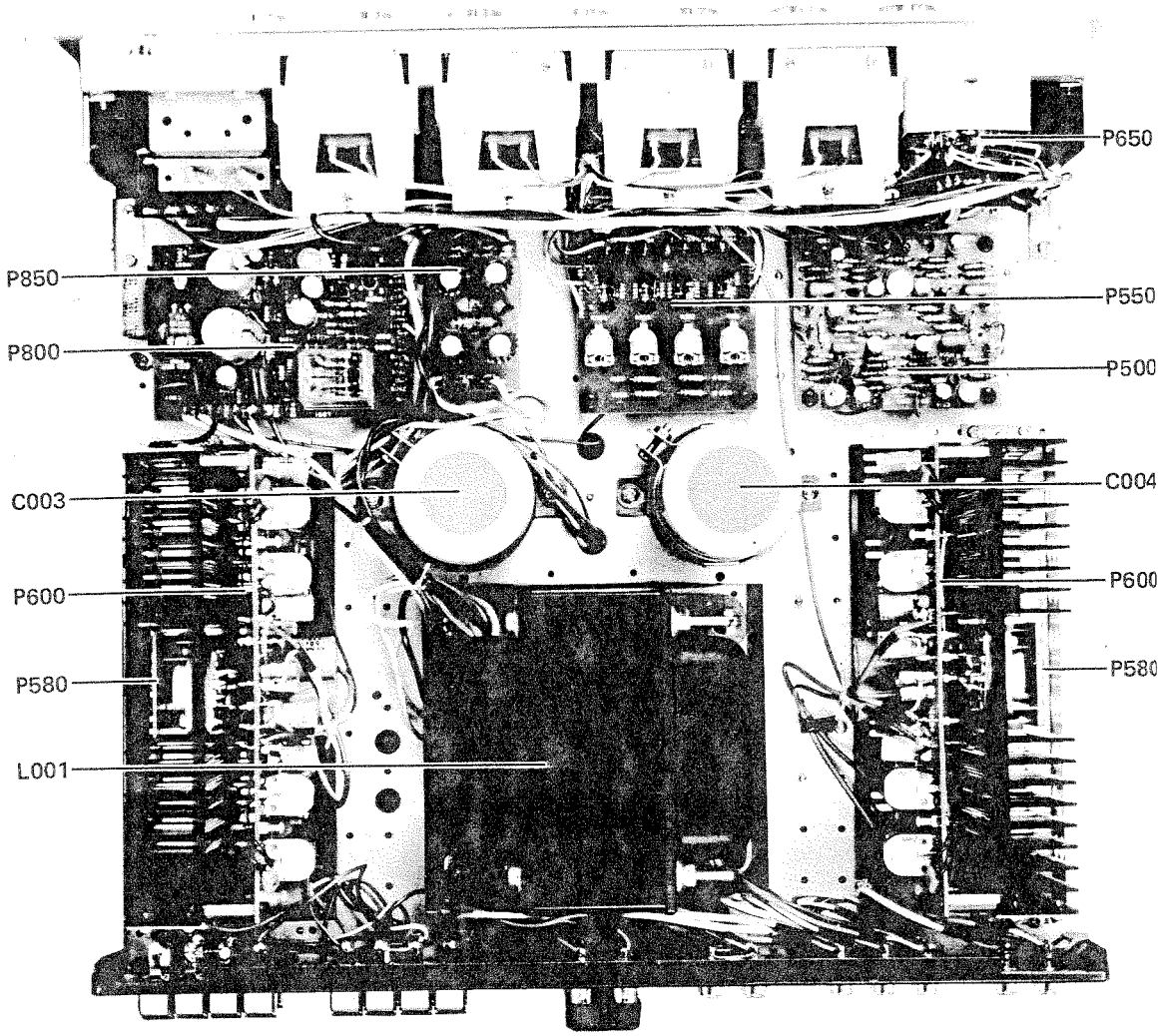


Figure 4. Main Chassis Component Locations (Top View)

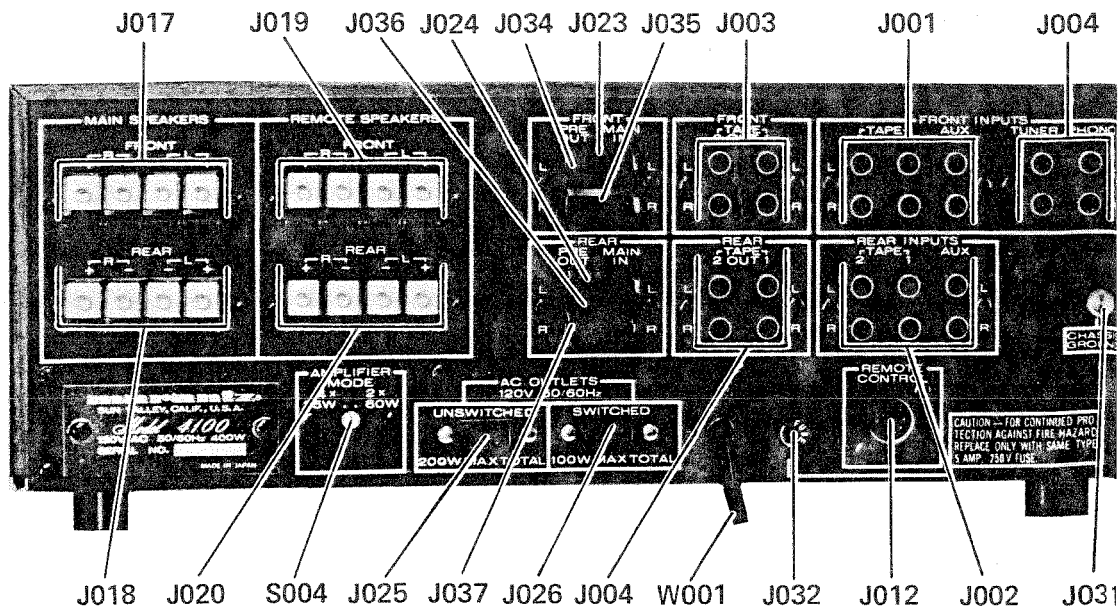


Figure 5. Rear Panel Adjustment and Component Location

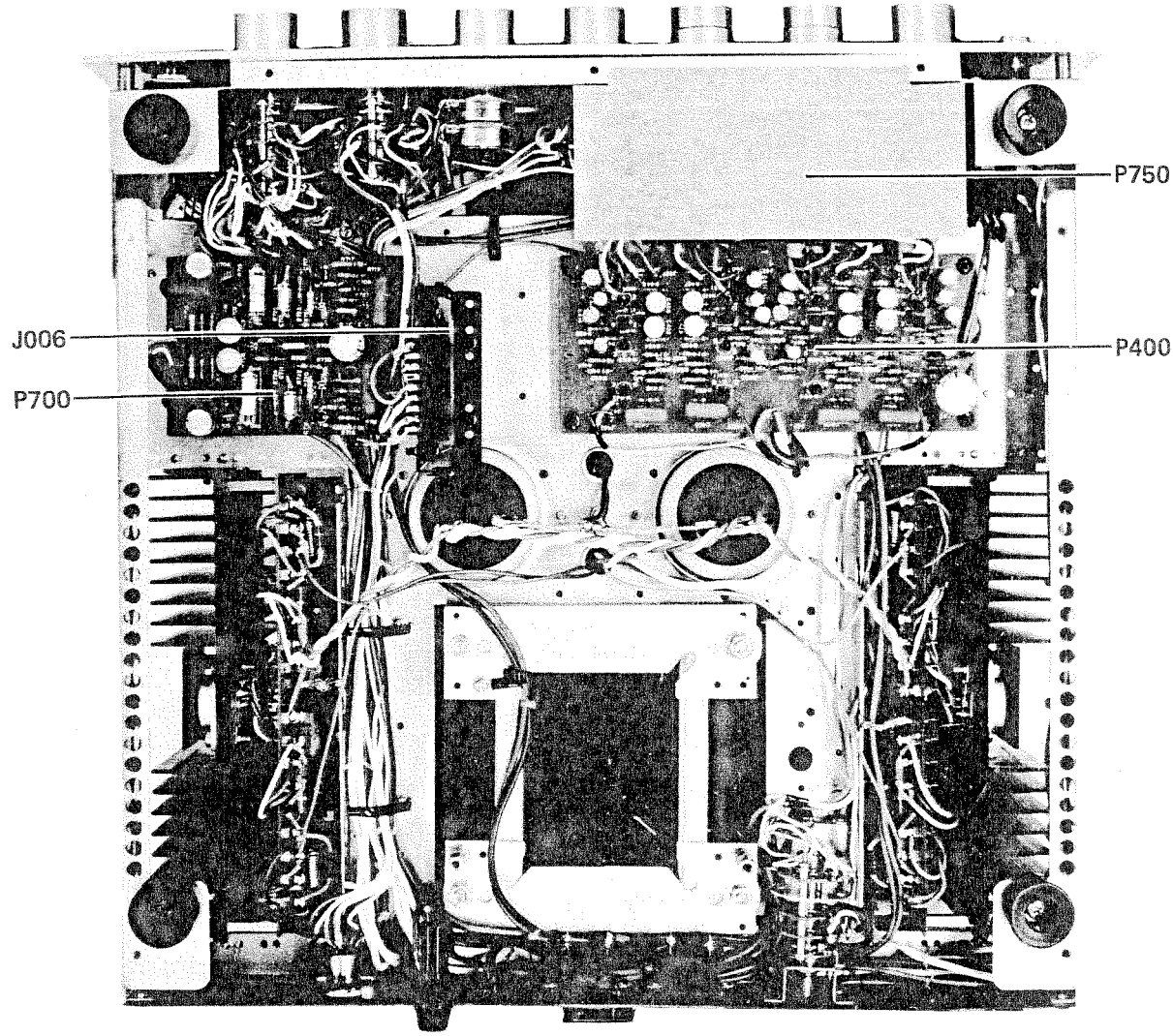


Figure 6. Main Chassis Component Locations (Bottom View)

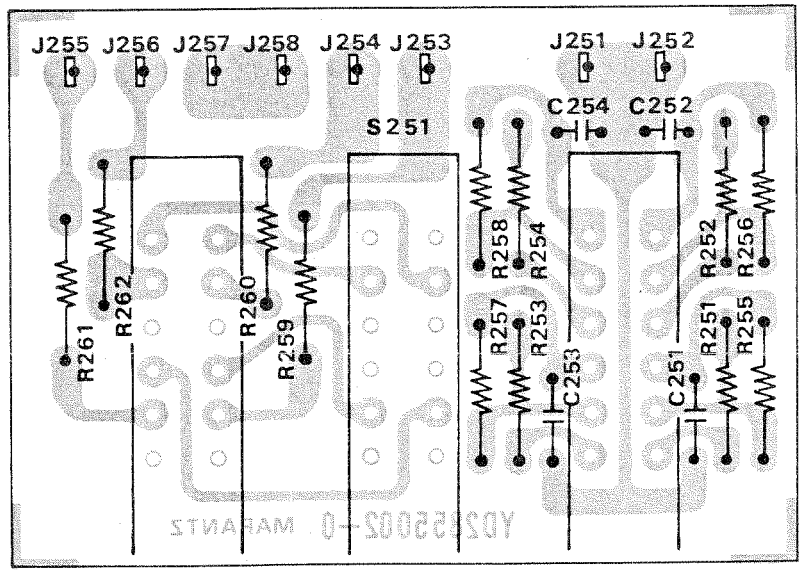


Figure 7. Tape Mon., Hi Filter Unit Assembly P250 Component Locations

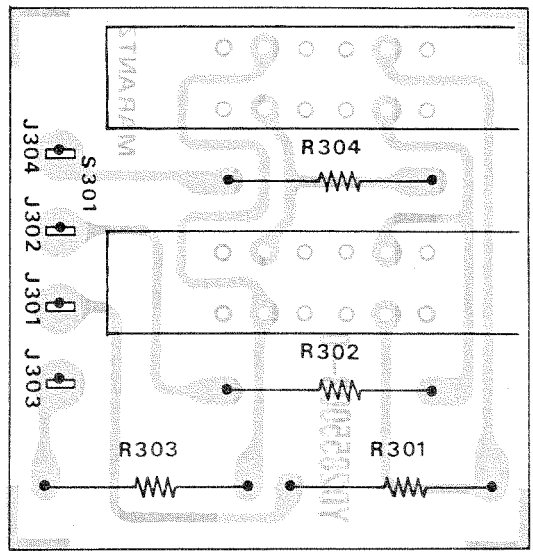


Figure 8. Main-Remote Speaker Switch Unit Assembly P300 Component Locations

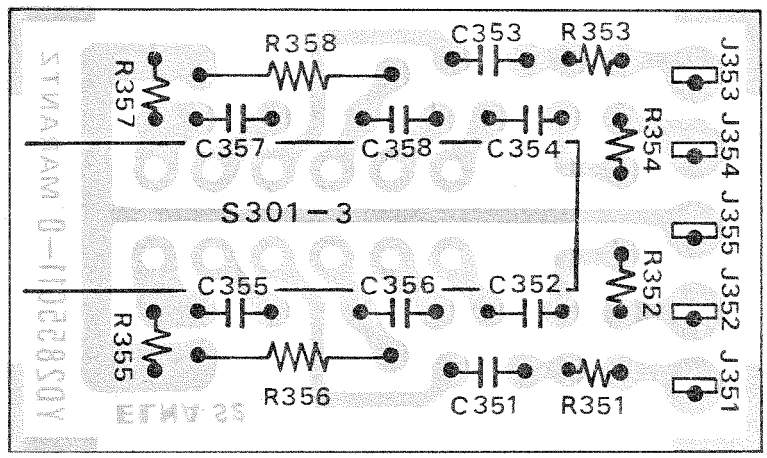


Figure 9. Loudness Unit Assembly P350 Component Locations

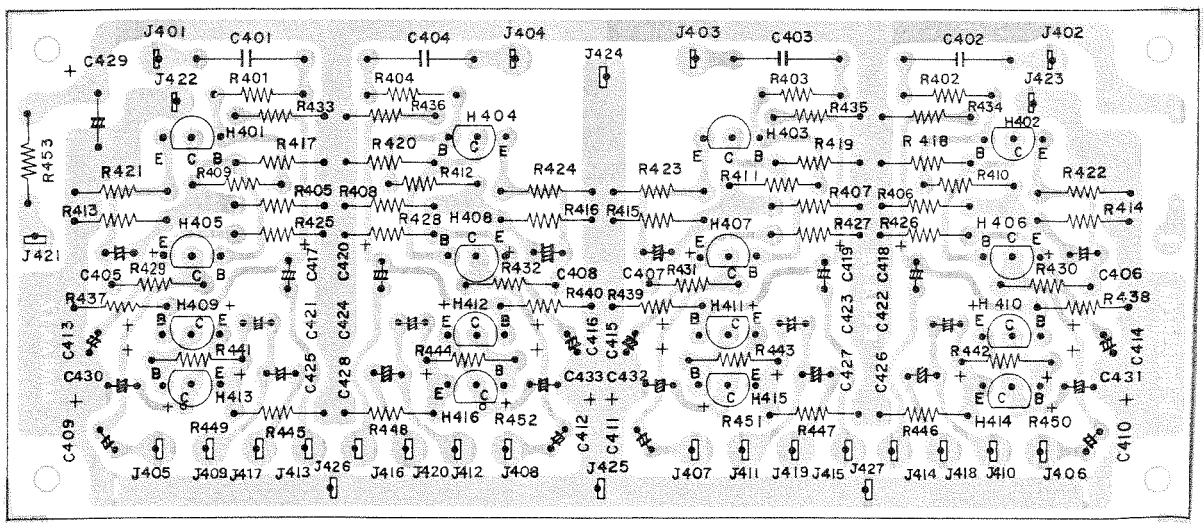


Figure 10. Tone Amplifier Assembly P400 Component Locations

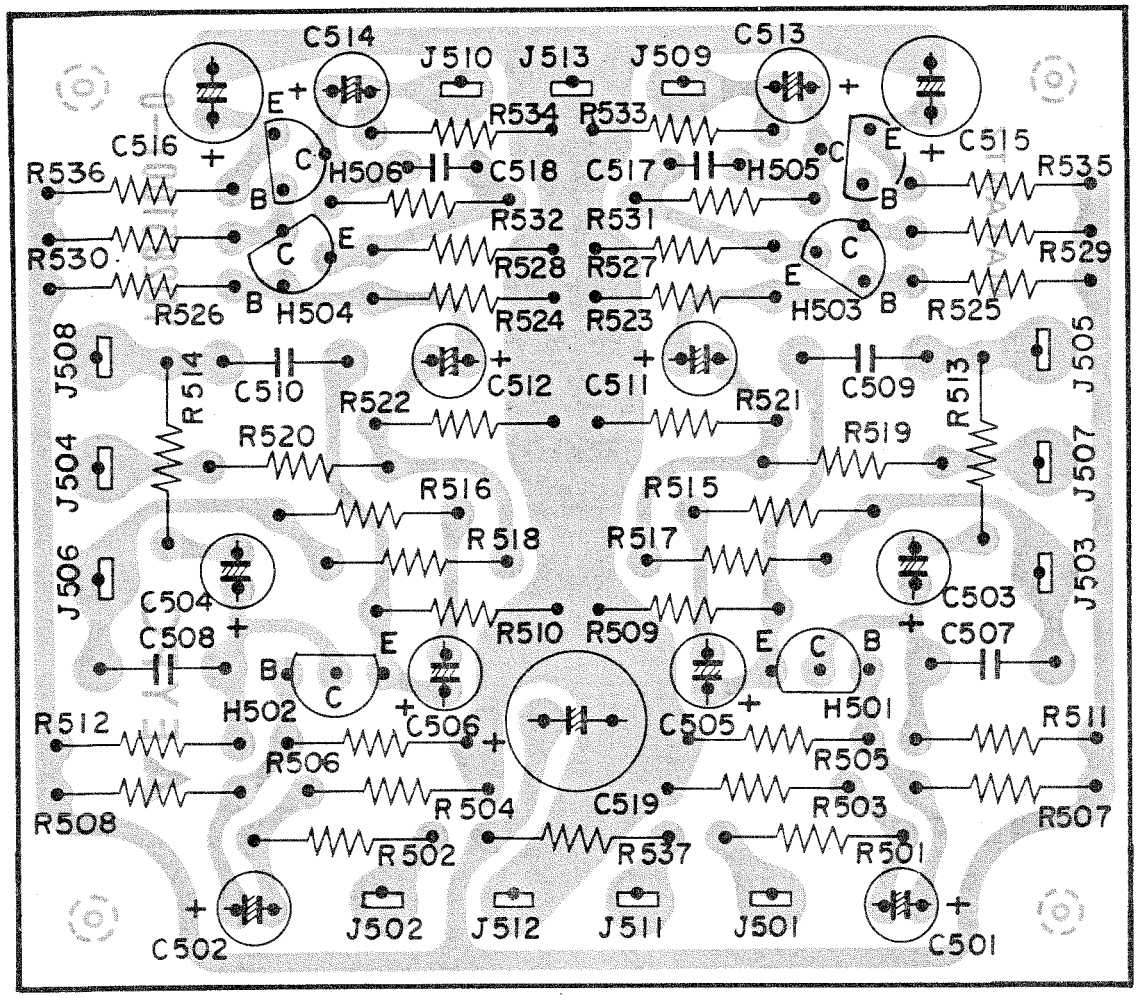


Figure 11. Vari-Matrix Unit Assembly P500 Component Locations

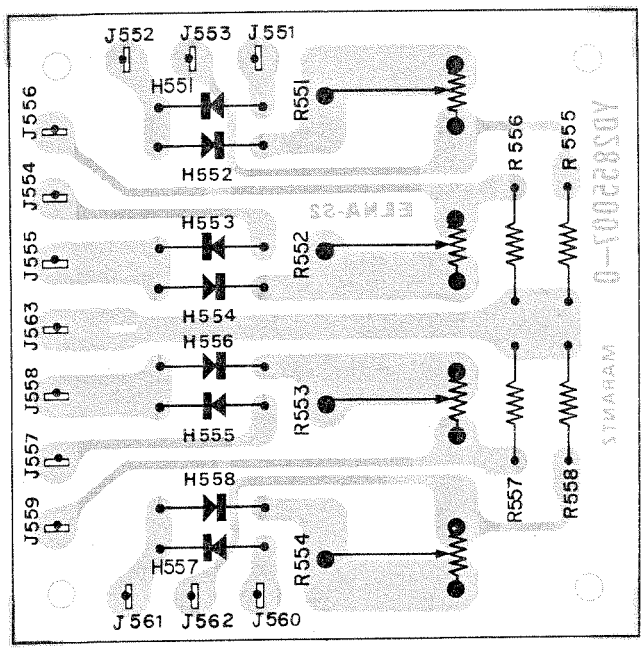
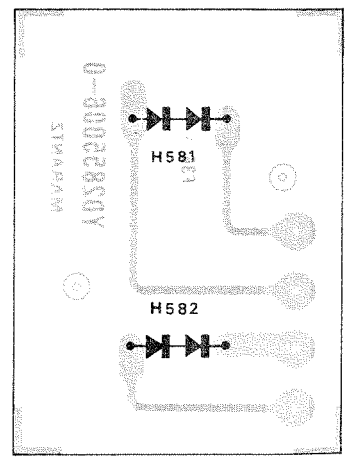


Figure 12. Meter Rectifier Unit Assembly P550 Component Locations

Figure 13. Temparature Compensation Unit Assembly P580 Component Locations



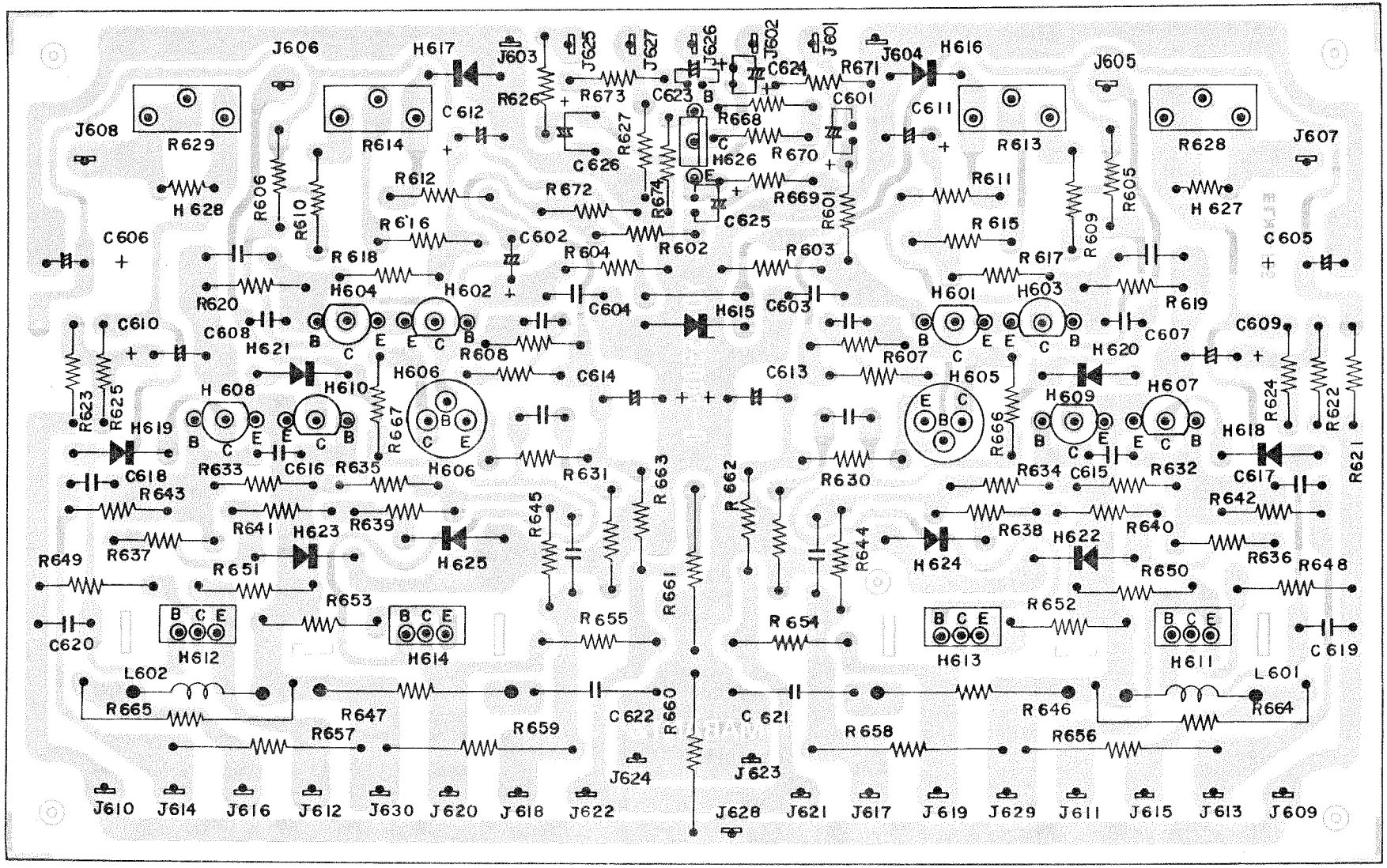


Figure 14. Power Amplifier Assembly P600 Component Locations

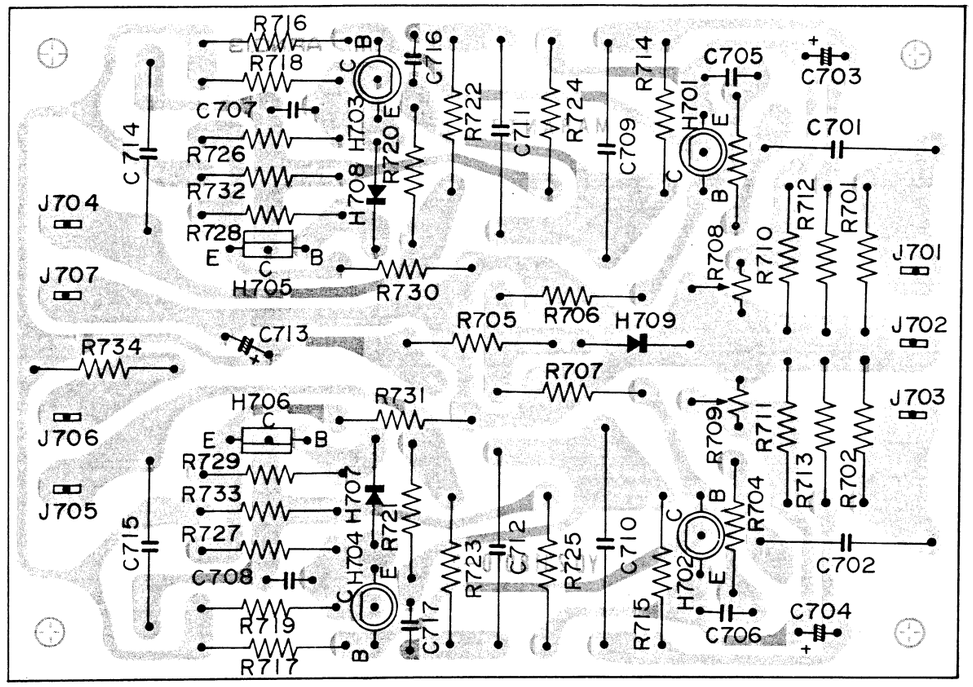


Figure 15. Phono Equalizer Amplifier Assembly P700 Component Locations

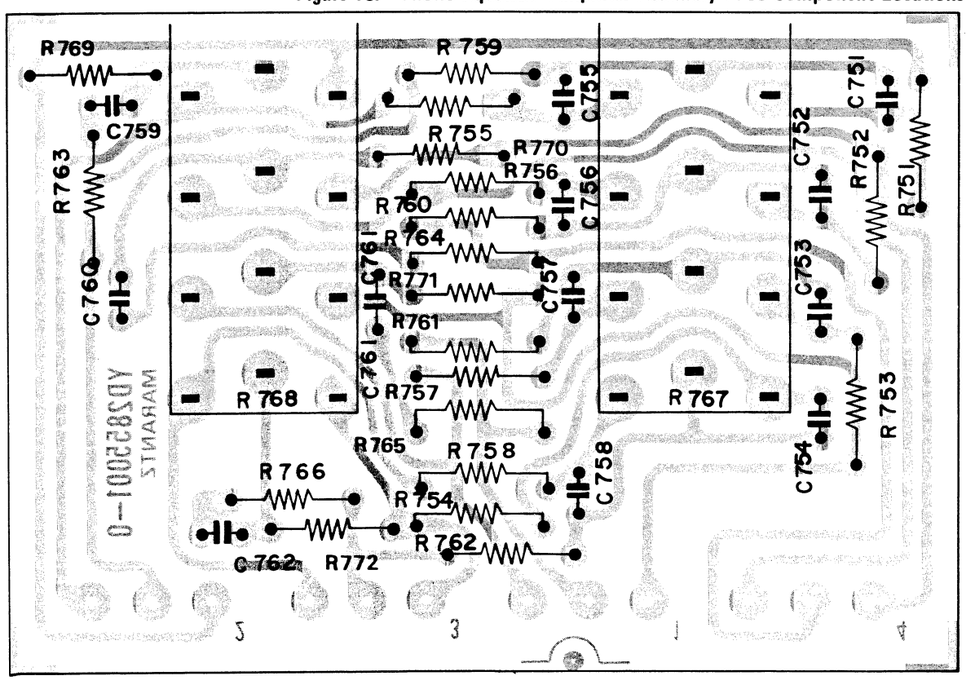


Figure 16. Tone Control Unit Assembly P750 Component Locations

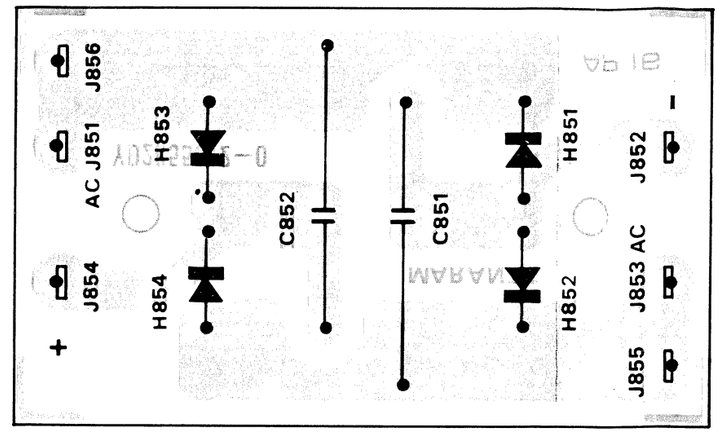


Figure 18. AC Rectifier Assembly P850 Component Locations

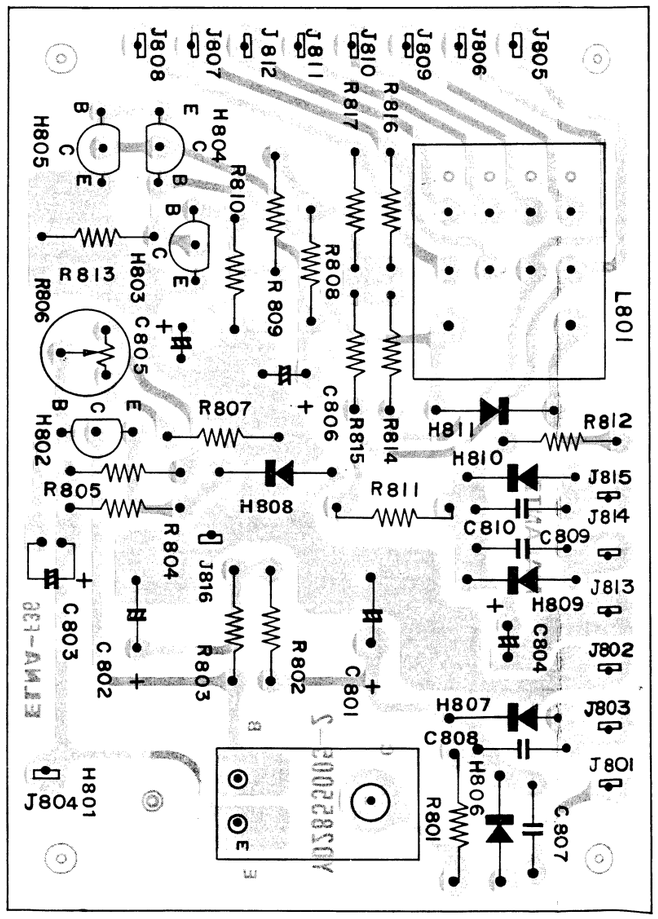


Figure 17. Power Supply Unit Assembly P800 Component Locations

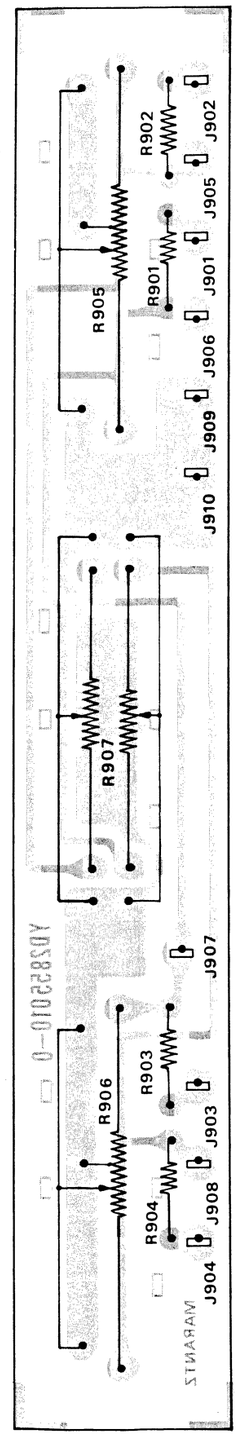


Figure 19. Balance Variable Resistor Unit Assembly P900 Component Locations

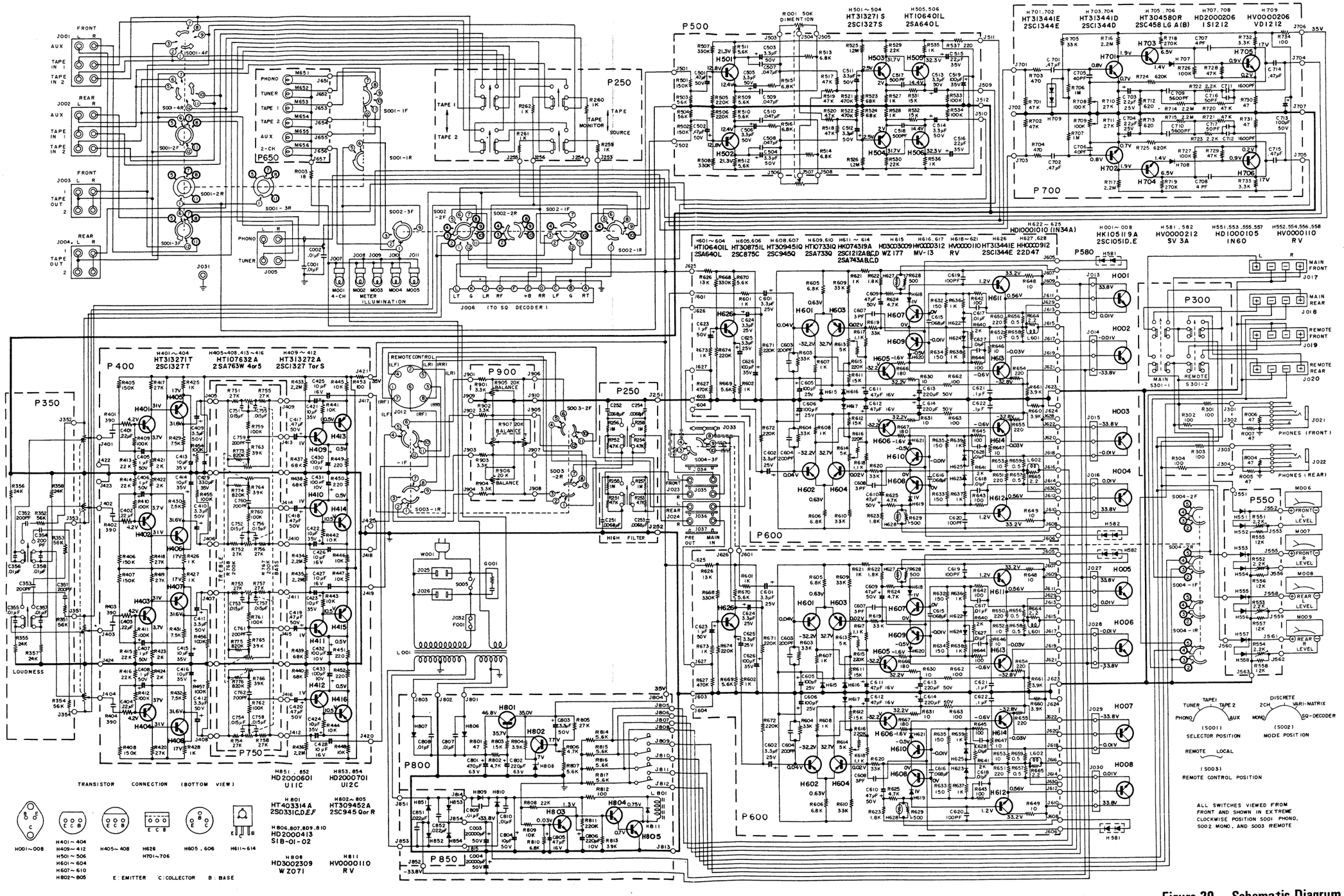


Figure 20. Schematic Diagram

PARTS LIST

REF. DESIG.	MARANTZ PART NO.	DESCRIPTION			
P700	YD2818010	P. W. B.			Phono Amp.
	ZZ2855110	P. W. B. Ass'y			
		RESISTORS (All resistors are ±5% and ¼W, unless otherwise indicated.)			
R701	RT0547314	47KΩ			
R702	RT0547314	47KΩ			
R703	RT0547114	470Ω			
R704	RT0547114	470Ω			
R705	RT0533314	33KΩ			
R706	RN1010514	1MΩ	±10%	¼W	
R707	RN1010514	1MΩ	±10%	¼W	
R708	RA0104012	Trimming	100KΩ(B)		
R709	RA0104012	Trimming	100KΩ(B)		
R710	RT0527314	27KΩ			
R711	RT0527314	27KΩ			
R712	RT0562114	620Ω			
R713	RT0562114	620Ω			
R714	RT0522514	2.2MΩ			
R715	RT0522514	2.2MΩ			
R716	RN1022514	2.2MΩ	±10%	¼W	
R717	RN1022514	2.2MΩ	±10%	¼W	
R718	RT0527414	270KΩ			
R719	RT0527414	270KΩ			
R720	RT0547314	47KΩ			
R721	RT0547314	47KΩ			
R722	RT0522214	2.2KΩ			
R723	RT0522214	2.2KΩ			
R724	RN0562414	620KΩ			
R725	RN0562414	620KΩ			
R726	RT0510414	100KΩ			
R727	RT0510414	100KΩ			
R728	RT0547314	47KΩ			
R729	RT0547314	47KΩ			
R730	RT0547014	47Ω			
R731	RT0547014	47Ω			
R732	RT0533214	3.3KΩ			
R733	RT0533214	3.3KΩ			
R734	RT0510114	100Ω			
		CAPACITORS			
C701	DF1747401	Film	0.47μF	±20%	50V
C702	DF1747401	Film	0.47μF	±20%	50V
C703	EE2260251	Electroly	22μF	±20%	25V
C704	EE2260251	Electroly	22μF	±20%	25V
C705	DD1540004	Ceramic	40PF	±5%	50V
C706	DD1540004	Ceramic	40PF	±5%	50V
C707	DD1104001	Ceramic	4PF	±0.5PF	50V
C708	DD1104001	Ceramic	4PF	±0.5PF	50V
C709	DF6556201	Film	5600PF	±5%	50V
C710	DF6556201	Film	5600PF	±5%	50V
C711	DF6516201	Film	1600PF	±5%	50V
C712	DF6516201	Film	1600PF	±5%	50V
C713	EA1070509	Electroly	100μF		50V
C714	DF1747401	Film	0.47μF	±20%	50V
C715	DF1747401	Film	0.47μF	±20%	50V
C716	DD1650001	Ceramic	50PF	±10%	50V
C717	DD1650001	Ceramic	50PF	±10%	50V
		MISCELLANEOUS			
J701	YP1000099	Plug			
J702	YP1000099	Plug			
J703	YP1000099	Plug			

REF DESIG.	MARANTZ PART NO.	DESCRIPTION	
J704	YP1000099	Plug	
J705	YP1000099	Plug	
J706	YP1000099	Plug	
J707	YP1000099	Plug	
		SEMICONDUCTORS	
H701	HT313441E	Transistor	2SC1344E
H702	HT313441E	Transistor	2SC1344E
H703	HT313441D	Transistor	2SC1344D
H704	HT313441D	Transistor	2SC1344D
H705	HT304580R	Transistor	2SC458LG A(B)
H706	HT304580R	Transistor	2SC458LG A(B)
H707	HD2000206	Diode	1S1212
H708	HD2000206	Diode	1S1212
H709	HV0000206	Varistor	VD1212
P500	YD2851001	P. W. B.	Vari-Matrix
	ZZ2855101	P. W. B. Ass'y	
		RESISTORS (All resistors are ±5% and ¼W.)	
R501	RT0515414	150KΩ	
R502	RT0515414	150KΩ	
R503	RT0556314	56KΩ	
R504	RT0556314	56KΩ	
R505	RT0522414	220KΩ	
R506	RT0522414	220KΩ	
R507	RT0533414	330KΩ	
R508	RT0533414	330KΩ	
R509	RT0556214	5.6KΩ	
R510	RT0556214	5.6KΩ	
R511	RT0556214	5.6KΩ	
R512	RT0556214	5.6KΩ	
R513	RT0568214	6.8KΩ	
R514	RT0568214	6.8KΩ	
R515	RT0568214	6.8KΩ	
R516	RT0568214	6.8KΩ	
R517	RT0547314	47KΩ	
R518	RT0547314	47KΩ	
R519	RT0547314	47KΩ	
R520	RT0547314	47KΩ	
R521	RT0547414	470KΩ	
R522	RT0547414	470KΩ	
R523	RT0568314	68KΩ	
R524	RT0568314	68KΩ	
R525	RT0512514	1.2 MΩ	
R526	RT0512514	1.2 MΩ	
R527	RT0510214	1KΩ	
R528	RT0510214	1KΩ	
R529	RT0522314	22KΩ	
R530	RT0522314	22KΩ	
R531	RT0515314	15KΩ	
R532	RT0515314	15KΩ	
R533	RT0510414	100KΩ	
R534	RT0510414	100KΩ	
R535	RT0510214	1KΩ	
R536	RT0510214	1KΩ	
R537	RT0522114	220Ω	
		MISCELLANEOUS	
J501	YP1000094	Plug	
J502	YP1000094	Plug	
J503	YP1000094	Plug	
J504	YP1000094	Plug	

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REF. DESIG.	MARANTZ PART NO.	DESCRIPTION
J505	YP1000094	Plug
J506	YP1000094	Plug
J507	YP1000094	Plug
J508	YP1000094	Plug
J509	YP1000094	Plug
J510	YP1000094	Plug
J511	YP1000094	Plug
J512	YP1000094	Plug
		CAPACITORS
C501	EE4740501	Electroly 0.47μF ±20% 50V
C502	EE4740501	Electroly 0.47μF ±20% 50V
C503	EE3350501	Electroly 3.3μF ±20% 50V
C504	EE3350501	Electroly 3.3μF ±20% 50V
C505	EE3350501	Electroly 3.3μF ±20% 50V
C506	EE3350501	Electroly 3.3μF ±20% 50V
C507	DF1747305	Film 0.047μF ±20% 50V
C508	DF1747305	Film 0.047μF ±20% 50V
C509	DF1747305	Film 0.047μF ±20% 50V
C510	DF1747305	Film 0.047μF ±20% 50V
C511	EE3350501	Electrol 3.3μF ±20% 50V
C512	EE3350501	Electroly 3.3μF ±20% 50V
C513	EE3350501	Electroly 3.3μF ±20% 50V
C514	EE3350501	Electroly 3.3μF ±20% 50V
C515	EA2260359	Electroly 22μF +100% -10% 35V
C516	EA2260359	Electroly 22μF +100% -10% 35V
C517	DD1650101	Ceramic 500PF ±10% 50V
C518	DD1650101	Ceramic 500PF ±10% 50V
C519	EA1070359	Electroly 100μF +100% -10% 35V
		SEMICONDUCTORS
H501	HT313271S	Transistor 2SC1327S
H502	HT313271S	Transistor 2SC1327S
H503	HT313271S	Transistor 2SC1327S
H504	HT313271S	Transistor 2SC1327S
H505	HT106401L	Transistor 2SA640L
H506	HT106401L	Transistor 2SA640L
P400	YD2855009	P. W. B. Pre Tone Amp.
	ZZ2855009	P. W. B. Ass'y
		RESISTORS (All resistors are ±5% and ¼W, unless otherwise indicated.)
R401	RT0539114	390Ω
R402	RT0539114	390Ω
R403	RT0539114	390Ω
R404	RT0539114	390Ω
R405	RT0515414	150KΩ
R406	RT0515414	150KΩ
R407	RT0515414	150KΩ
R408	RT0515414	150KΩ
R409	RT0510414	100KΩ
R410	RT0510414	100KΩ
R411	RT0510414	100KΩ
R412	RT0510414	100KΩ
R413	RT0522314	22KΩ
R414	RT0522314	22KΩ
R415	RT0522314	22KΩ
R416	RT0522314	22KΩ
R417	RT0527314	27KΩ
R418	RT0527314	27KΩ
R419	RT0527314	27KΩ
R420	RT0527314	27KΩ

REF. DESIG.	MARANTZ PART NO.	DESCRIPTION
R421	RT0520214	2KΩ
R422	RT0520214	2KΩ
R423	RT0520214	2KΩ
R424	RT0520214	2KΩ
R425	RT0510214	1KΩ
R426	RT0510214	1KΩ
R427	RT0510214	1KΩ
R428	RT0510214	1KΩ
R429	RT0575214	7.5KΩ
R430	RT0575214	7.5KΩ
R431	RT0575214	7.5KΩ
R432	RT0575214	7.5KΩ
R433	RN1022514	2.2MΩ ±10% ¼W
R434	RN1022514	2.2MΩ ±10% ¼W
R435	RN1022514	2.2MΩ ±10% ¼W
R436	RN1022514	2.2MΩ ±10% ¼W
R437	RT0568314	68KΩ
R438	RT0568314	68KΩ
R439	RT0568314	68KΩ
R440	RT0568314	68KΩ
R441	RT0510314	10KΩ
R442	RT0510314	10KΩ
R443	RT0510314	10KΩ
R444	RT0510314	10KΩ
R445	RT0510314	10KΩ
R446	RT0510314	10KΩ
R447	RT0510314	10KΩ
R448	RT0510314	10KΩ
R449	RT0522114	220Ω
R450	RT0522114	220Ω
R451	RT0522114	220Ω
R452	RT0522114	220Ω
R453	RT0510114	100Ω
R454	RT0510414	100KΩ
R455	RT0510414	100KΩ
R456	RT0510414	100KΩ
R457	RT0510414	100KΩ
		CAPACITORS
C401	DF1622405	Film 0.22μF ±10% 50V
C402	DF1622405	Film 0.22μF ±10% 50V
C403	DF1622405	Film 0.22μF ±10% 50V
C404	DF1622405	Film 0.22μF ±10% 50V
C405	EE1050501	Electroly 1μF ±20% 50V
C406	EE1050501	Electroly 1μF ±20% 50V
C407	EE1050501	Electroly 1μF ±20% 50V
C408	EE1050501	Electroly 1μF ±20% 50V
C409	EE3350501	Electroly 3.3μF ±20% 50V
C410	EE3350501	Electroly 3.3μF ±20% 50V
C411	EE3350501	Electroly 3.3μF ±20% 50V
C412	EE3350501	Electroly 3.3μF ±20% 50V
C413	EA1060359	Electroly 10μF 35V
C414	EA1060359	Electroly 10μF 35V
C415	EA1060359	Electroly 10μF 35V
C416	EA1060359	Electroly 10μF 35V
C417	EE4740501	Electroly 0.47μF ±20% 50V
C418	EE4740501	Electroly 0.47μF ±20% 50V
C419	EE4740501	Electroly 0.47μF ±20% 50V
C420	EE4740501	Electroly 0.47μF ±20% 50V
C421	EE1060351	Electroly 10μF ±20% 35V
C422	EE1060351	Electroly 10μF ±20% 35V
C423	EE1060351	Electroly 10μF ±20% 35V

REF. DESIG.	MARANTZ PART NO.	DESCRIPTION
C424	EE1060351	Electroly 10μF ±20% 35V
C425	EQ1060161	Electroly 10μF ±30% 16V
C426	EQ1060161	Electroly 10μF ±30% 16V
C427	EQ1060161	Electroly 10μF ±30% 16V
C428	EQ1060161	Electroly 10μF ±30% 16V
C429	EA3370359	Electroly 330μF +50% -10% 35V
C430	EA1070109	Electroly 100μF 10V
C431	EA1070109	Electroly 100μF 10V
C432	EA1070109	Electroly 100μF 10V
C433	EA1070109	Electroly 100μF 10V
		SEMICONDUCTORS
H401	HT313271T	Transistor 2SC1327 (T)
H402	HT313271T	Transistor 2SC1327 (T)
H403	HT313271T	Transistor 2SC1327 (T)
H404	HT313271T	Transistor 2SC1327 (T)
H405	HT107632A	Transistor 2SA763W 4 or 5
H406	HT107632A	Transistor 2SA763W 4 or 5
H407	HT107632A	Transistor 2SA763W 4 or 5
H408	HT107632A	Transistor 2SA763W 4 or 5
H409	HT313272A	Transistor 2SC1327 (T or S)
H410	HT313272A	Transistor 2SC1327 (T or S)
H411	HT313272A	Transistor 2SC1327 (T or S)
H412	HT313272A	Transistor 2SC1327 (T or S)
H413	HT107632A	Transistor 2SA763W 4 or 5
H414	HT107632A	Transistor 2SA763W 4 or 5
H415	HT107632A	Transistor 2SA763W 4 or 5
H416	HT107632A	Transistor 2SA763W 4 or 5
		MISCELLANEOUS
J401	YP1000094	Plug
J402	YP1000094	Plug
J403	YP1000094	Plug
J404	YP1000094	Plug
J405	YP1000094	Plug
J406	YP1000094	Plug
J407	YP1000094	Plug
J408	YP1000094	Plug
J409	YP1000094	Plug
J410	YP1000094	Plug
J411	YP1000094	Plug
J412	YP1000094	Plug
J413	YP1000094	Plug
J414	YP1000094	Plug
J415	YP1000094	Plug
J416	YP1000094	Plug
J417	YP1000094	Plug
J418	YP1000094	Plug
J419	YP1000094	Plug
J420	YP1000094	Plug
J421	YP1000094	Plug
J422	YP1000094	Plug
J423	YP1000094	Plug
J424	YP1000094	Plug
J425	YP1000094	Plug
P550	YD2855007	P. W. B. Meter
	ZZ2855007	P. W. B. Ass'y
		RESISTORS
R551	RA0202010	Trimming 2.2KΩ ±30%
R552	RA0202010	Trimming 2.2KΩ ±30%
R553	RA0202010	Trimming 2.2KΩ ±30%

REF. DESIG.	MARANTZ PART NO.	DESCRIPTION
R554	RA0202010	Trimming 2.2KΩ ±30%
R555	RT0512314	12KΩ
R556	RT0512314	12KΩ
R557	RT0512314	12KΩ
R558	RT0512314	12KΩ
		SEMICONDUCTORS
H551	HD1000105	Diode 1N60
H552	HV0000110	Varistor RV
H553	HD1000105	Diode 1N60
H554	HV0000110	Varistor RV
H555	HD1000105	Diode 1N60
H556	HV0000110	Varistor RV
H557	HD1000105	Diode 1N60
H558	HV0000110	Varistor RV
		MISCELLANEOUS
J551	YP1000099	Plug
J552	YP1000099	Plug
J553	YP1000099	Plug
J554	YP1000099	Plug
J555	YP1000099	Plug
J556	YP1000099	Plug
J557	YP1000099	Plug
J558	YP1000099	Plug
J559	YP1000099	Plug
J560	YP1000099	Plug
J561	YP1000099	Plug
J562	YP1000099	Plug
J563	YP1000099	Plug
0814	281910101	Support x2
0826	51100306S	B. H. M. Screw x10
0827	51100306S	B. H. M. Screw x 4
P600	YD2855004	P. W. B. Main Amp. x2
	ZZ2855004	P. W. B. Ass'y
		RESISTORS (All resistors are ±5% and ¼W, unless otherwise indicated.)
R601	RT0510214	1KΩ x 2
R602	RT0510214	1KΩ x 2
R603	RT0533314	33KΩ x 2
R604	RT0533314	33KΩ x 2
R605	RT0568214	6.8KΩ x 2
R606	RT0568214	6.8KΩ x 2
R607	RT0510214	1KΩ x 2
R608	RT0510214	1KΩ x 2
R609	RT0533314	33KΩ x 2
R610	RT0533314	33KΩ x 2
R611	RT0515314	15KΩ x 2
R612	RT0515314	15KΩ x 2
R613	RA0502017	Trimming 5KΩ ± 10% x 2
R614	RA0502017	Trimming 5KΩ ± 10% x 2
R615	RT0522414	220KΩ x 2
R616	RT0522414	220KΩ x 2
R617	RT0511214	1KΩ x 2
R618	RT0511214	1KΩ x 2
R619	RT0533314	33KΩ x 2
R620	RT0533314	33KΩ x 2
R621	RC1010212	1KΩ ±10% ½W x2
R622	RC1018212	1.8KΩ ±10% ½W x2
R623	RC1018212	1.8KΩ ±10% ½W x2

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REF. DESIG.	MARANTZ PART NO.	DESCRIPTION
R624	RC1047212	4.7KΩ ±10% ½W x2
R625	RC1047212	4.7KΩ ±10% ½W x2
R626	RT0513314	13KΩ x 2
R627	RT0547414	470KΩ x 2
R628	RA0501010	Trimming 500Ω ± 10% x 2
R629	RA0501010	Trimming 500Ω ± 10% x 2
R630	RC1010012	10Ω ± 10% ½W x 2
R631	RC1010012	10Ω ± 10% ½W x 2
R632	GF0515114	150Ω x 2
R633	GF0515114	150Ω x 2
R634	GF0515114	150Ω x 2
R635	GF0515114	150Ω x 2
R636	GF0510214	1KΩ x 2
R637	GF0510214	1KΩ x 2
R638	GF0510214	1KΩ x 2
R639	GF0510214	1KΩ x 2
R640	RT0520214	2KΩ x 2
R641	RT0520214	2KΩ x 2
R642	GF0510114	100Ω x 2
R643	GF0510114	100Ω x 2
R644	GF0510114	100Ω x 2
R645	GF0510114	100Ω x 2
R646	GT0510002	10Ω ±5% 2W x 2
R647	GT0510002	10Ω ±5% 2W x 2
R648	GF0510012	10Ω ±5% ½W x 2
R649	GF0510012	10Ω ±5% ½W x 2
R650	GF0522112	220Ω ±5% ½W x 2
R651	GF0522112	220Ω ±5% ½W x 2
R652	GF0510012	10Ω ±5% ½W x 2
R653	GF0510012	10Ω ±5% ½W x 2
R654	GF0522112	220Ω ±5% ½W x 2
R655	GF0522112	220Ω ±5% ½W x 2
R656	RW1000503	0.5Ω ±10% 3W x 2
R657	RW1000503	0.5Ω ±10% 3W x 2
R658	RW1000503	0.5Ω ±10% 3W x 2
R659	RW1000503	0.5Ω ±10% 3W x 2
R660	RC1039212	3.9KΩ ±10% ½W x 2
R661	RC1039212	3.9KΩ ±10% ½W x 2
R662	RC1010112	100Ω ±10% ½W x 2
R663	RC1010112	100Ω ±10% ½W x 2
R664	RC1002212	2.2Ω ±10% ½W x 2
R665	RC1002212	2.2Ω ±10% ½W x 2
R666	RT0518114	180Ω x 2
R667	RT0518114	180Ω x 2
R668	RT0533414	330KΩ x 2
R669	RT0556214	5.6KΩ x 2
R670	RT0556214	5.6KΩ x 2
R671	RT0522414	220KΩ x 2
R672	RT0522414	220KΩ x 2
R673	RT0510214	1KΩ x 2
R674	RT0522414	220KΩ x 2
		CAPACITORS
C601	EE3350251	Electroly 3.3μF ± 20% 25V x 2
C602	EE3350251	Electroly 3.3μF ± 20% 25V x 2
C603	DD1620101	Ceramic 200PF ± 10% x 2
C604	DD1620101	Ceramic 200PF ± 10% x 2
C605	EA1070259	Electroly 100μF 25V x 2
C606	EA1070259	Electroly 100μF 25V x 2
C607	DD1003050	Ceramic 3PF ± 0.25PF 500V x 2
C608	DD1003050	Ceramic 3PF ± 0.25PF 500V x 2
C609	EA4760509	Electroly 47μF 50V x 2

REF. DESIG.	MARANTZ PART NO.	DESCRIPTION
C610	EA4760509	Electroly 47μF 50V x 2
C611	EE4760162	Electroly 47μF 16V x 2
C612	EE4760162	Electroly 47μF 16V x 2
C613	EA2270509	Electroly 220μF 50V x 2
C614	EA2270509	Electroly 220μF 50V x 2
C615	DF1768301	Film 0.068μF ± 20% x 2
C616	DF1768301	Film 0.068μF ± 20% x 2
C617	DF1710301	Film 0.01μF ± 20% x 2
C618	DF1710301	Film 0.01μF ± 20% x 2
C619	DK1610150	Ceramic 100PF ± 10% x 2
C620	DK1610150	Ceramic 100PF ± 10% x 2
C621	DF1710452	Film 0.1μF 200V x 2
C622	DF1710452	Film 0.1μF 200V x 2
C623	EE1050501	Electroly 1μF ± 20% 50V x 2
C624	EE3350251	Electroly 3.3μF ± 20% 25V x 2
C625	EE3350251	Electroly 3.3μF ± 20% 25V x 2
C626	EA1070359	Electroly 100μF 35V x 2
C627	DF1710301	Film 0.01μF ± 20% x2
C628	DF1710301	Film 0.01μF ± 20% x2
		COILS
L601	LL2380612	Choke x 2
L602	LL2380612	Choke x 2
		SEMICONDUCTORS
H601	HT106401L	Transistor 2SA640 L x 2
H602	HT106401L	Transistor 2SA640 L x 2
H603	HT106401L	Transistor 2SA640 L x 2
H604	HT106401L	Transistor 2SA640 L x 2
H605	HT308751L	Transistor 2SC875 C x 2
H606	HT308751L	Transistor 2SC875 C x 2
H607	HT309451Q	Transistor 2SC945 Q x 2
H608	HT309451Q	Transistor 2SC945 Q x 2
H609	HT107331Q	Transistor 2SA733 Q x 2
H610	HT107331Q	Transistor 2SA733 Q x 2
H611	HT107431C	Transistor 2SA743C x 2
H612	HT107431C	Transistor 2SA743C x 2
H613	HT312121C	Transistor 2SC1212C x 2
H614	HT312121C	Transistor 2SC1212C x 2
H615	HD3003009	Diode Zenner WZ-177 x 2
H616	HV0000312	Varistor MV-13 x 2
H617	HV0000312	Varistor MV-13 x 2
H618	HV0000110	Varistor RV x 2
H619	HV0000110	Varistor RV x 2
H620	HV0000110	Varistor RV x 2
H621	HV0000110	Varistor RV x 2
H622	HD1000101	Diode 1N34A x 2
H623	HD1000101	Diode 1N34A x 2
H624	HD1000101	Diode 1N34A x 2
H625	HD1000101	Diode 1N34A x 2
H626	HT313441E	Transistor 2SC1344E x 2
H627	HH0000912	Thermistor 22D47(200Ω) x 2
H628	HH0000912	Thermistor 22D47(200Ω) x 2
		MISCELLANEOUS
J601	YP1000099	Plug x 2
J603	YP1000099	Plug x 2
J604	YP1000099	Plug x 2
J605	YP1000099	Plug x 2
J606	YP1000099	Plug x 2
J607	YP1000099	Plug x 2
J608	YP1000099	Plug x 2
J609	YP1000099	Plug x 2
J610	YP1000099	Plug x 2

REF. DESIG.	MARANTZ PART NO.	DESCRIPTION
J611	YP1000099	Plug x2
J612	YP1000099	Plug x2
J613	YP1000099	Plug x2
J614	YP1000099	Plug x2
J615	YP1000099	Plug x2
J616	YP1000099	Plug x2
J617	YP1000099	Plug x2
J618	YP1000099	Plug x2
J619	YP1000099	Plug x2
J620	YP1000099	Plug x2
J621	YP1000099	Plug x2
J622	YP1000099	Plug x2
J623	YP1000099	Plug x2
J624	YP1000099	Plug x2
J625	YP1000099	Plug x2
J626	YP1000099	Plug x2
J627	YP1000099	Plug x2
J628	YP1000099	Plug x2
J629	YP1000099	Plug x2
J630	YP1000099	Plug x2
0810	285526702	Heat-Sink x4
0812	281811806	Spacer x4
0831	54022601E	Flat Washer x8
0832	51102606E	B. H. M. Screw x8
P580	YD2855006	P. W. B. Temp. Comp. x2
	ZZ2855006	P. W. B. Ass'y
		MISCELLANEOUS
H581	HV0000212	Varistor SV-3A x2
H582	HV0000212	Varistor SV-3A x2
0818	285505601	Buffer x2
0804	285526701	Heat-Sink x2
0806	281810104	Support x8
0808	281816007	Bracket x4
0816	285510101	Support x4
0833	51100314E	B. H. M. Screw x12
0828	51570306B	P. H. Tapt Screw x12
H001	HT310151D	Transistor 2SC1051 D
H002	HT310151D	Transistor 2SC1051 D
H003	HT310151D	Transistor 2SC1051 D
H004	HT310151D	Transistor 2SC1051 D
H005	HT310151D	Transistor 2SC1051 D
H006	HT310151D	Transistor 2SC1051 D
H007	HT310151D	Transistor 2SC1051 D
H008	HT310151D	Transistor 2SC1051 D
J013	YJ0500019	Socket
J014	YJ0500019	Socket
J015	YJ0500019	Socket
J016	YJ0500019	Socket
J027	YJ0500019	Socket
J028	YJ0500019	Socket
J029	YJ0500019	Socket
J030	YJ0500019	Socket
P850	YD2855012	P. W. B. Rectifier
	ZZ2855012	P. W. B. Ass'y
		MISCELLANEOUS
C851	DF2722350	Capacitor Film 0.022μF ±20% 400V
C852	DF2722350	Capacitor Film 0.022μF ±20% 400V

REF. DESIG.	MARANTZ PART NO.	DESCRIPTION
H851	HD2000601	Diode U11C
H852	HD2000601	Diode U11C
H853	HD2000701	Diode U12C
H854	HD2000701	Diode U12C
J851	YP1000099	Plug
J852	YP1000099	Plug
J853	YP1000099	Plug
J854	YP1000099	Plug
J855	YP1000099	Plug
J856	YP1000099	Plug
P800	YD2855005	P. W. B. Power Supply
	ZZ2855005	P. W. B. Ass'y
		RESISTORS
R801	GF0547012	47Ω ±5% ½W
R802	RT0547214	4.7KΩ ±5% ¼W
R803	RT0515214	1.5KΩ ±5% ¼W
R804	RC1039212	3.9KΩ ±10% ½W
R805	RT0527314	27KΩ ±5% ¼W
R806	RA0502013	Trimming 4.7KΩ B
R807	RT0556214	5.6KΩ ±5% ¼W
R808	RT0522314	22KΩ ±5% ¼W
R809	RT0510314	10KΩ ±5% ¼W
R810	RT0568214	6.8KΩ ±5% ¼W
R811	RT0522414	220KΩ ±5% ¼W
R812	RC1010112	100Ω ±10% ½W
R813	RT0539314	39KΩ ±10% ¼W
R814	RC1056212	5.6KΩ ±10% ½W
R815	RC1056212	5.6KΩ ±10% ½W
R816	RC1056212	5.6KΩ ±10% ½W
R817	RC1056212	5.6KΩ ±10% ½W
		CAPACITORS AND RELAY
C801	EA4770631	Electroly 470μF 63V
C802	EA2270631	Electroly 220μF 63V
C803	EA3350509	Electroly 3.3μF 50V
C804	EA1060509	Electroly 10μF 50V
C805	EA4760169	Electroly 47μF 16V
C806	EA2270109	Electroly 220μF 10V
C807	DK1810351	Ceramic 0.01μF +100% -0% 500V
C808	DK1810351	Ceramic 0.01μF +100% -0% 500V
C809	DK1810351	Ceramic 0.01μF +100% -0% 500V
C810	DK1810351	Ceramic 0.01μF +100% -0% 500V
L801	LY4024003	Relay
		SEMICONDUCTORS
H801	HT403314A	Transistor 2SD331C. D. E. F
H802	HT309452A	Transistor 2SC945Q or R
H803	HT309452A	Transistor 2SC945Q or R
H804	HT309452A	Transistor 2SC945Q or R
H805	HT309452A	Transistor 2SC945Q or R
H806	HD2000413	Diode SIB-01-02
H807	HD2000413	Diode SIB-01-02
H808	HD3002309	Diode WZ-071
H809	HD2000413	Diode SIB-01-02
H810	HD2000413	Diode SIB-01-02
H811	HV0000110	Varistor RV
		MISCELLANEOUS
J801	YP1000099	Plug
J802	YP1000099	Plug
J803	YP1000099	Plug

REF. DESIG.	MARANTZ PART NO.	DESCRIPTION
J804	YP1000099	Plug
J805	YP1000099	Plug
J806	YP1000099	Plug
J807	YP1000099	Plug
J808	YP1000099	Plug
J809	YP1000099	Plug
J810	YP1000099	Plug
J811	YP1000099	Plug
J812	YP1000099	Plug
J813	YP1000099	Plug
J814	YP1000099	Plug
J815	YP1000099	Plug
0925	273026702	Heat-Sink
1111	51060308E	P. H. M. Screw x2
1112	53110303E	Hexagon Nut
1113	54040302N	Spring Washer
2837	62031650W	Lug
2836	62031650W	Lug
C007	EA1070509	Capacitor Electroly 100μF 50V
0403	285516050	Bracket K
0408	281816003	Bracket
0409	281816004	Bracket
0419	285527401	Reflector
0420	285510102	Support x 2
0503	51100306A	B. H. M. Screw x 6
0505	51102605A	B. H. M. Screw x 6
0507	51570306B	P. H. Tapt Screw x 8
0508	54050300R	T. L. Washer OR x 8
0515	51570306B	P. H. Tapt Screw x 2
0521	51042605A	F. H. M. Screw x 2
0522	51102605A	B. H. M. Screw x 2
0523	54042602N	Spring Washer x 2
0525	51100406A	B. H. M. Screw x 4
0528	51100306A	B. H. M. Screw x 2
0432	288310701	Sheet x 2
0426	287105302	Sheet x 4
P350	YD2855011	P. W. B. Loudness
	ZZ2855011	P. W. B. Ass'y
		RESISTORS
R351	RT0556314	56KΩ ±5% ¼W
R352	RT0556314	56KΩ ±5% ¼W
R353	RT0556314	56KΩ ±5% ¼W
R354	RT0556314	56KΩ ±5% ¼W
R355	RT0524314	24KΩ ±5% ¼W
R356	RT0524314	24KΩ ±5% ¼W
R357	RT0524314	24KΩ ±5% ¼W
R358	RT0524314	24KΩ ±5% ¼W
		CAPACITORS
C351	DD1620101	Ceramic 200PF ±10%
C352	DD1620101	Ceramic 200PF ±10%
C353	DD1620101	Ceramic 200PF ±10%
C354	DD1620101	Ceramic 200PF ±10%
C355	DF1610301	Film 0.01μF ±10%
C356	DF1610301	Film 0.01μF ±10%
C357	DF1610301	Film 0.01μF ±10%
C358	DF1610301	Film 0.01μF ±10%

REF. DESIG.	MARANTZ PART NO.	DESCRIPTION
		MISCELLANEOUS
J351	YP1000099	Plug
J352	YP1000099	Plug
J353	YP1000099	Plug
J354	YP1000099	Plug
J355	YP1000099	Plug
P300	YD2855003	P. W. B. SP, Mode
	ZZ2855003	P. W. B. Ass'y
		RESISTORS
R301	RJ1010102	100Ω ±10% 2W
R302	RJ1010102	100Ω ±10% 2W
R303	RJ1010102	100Ω ±10% 2W
R304	RJ1010102	100Ω ±10% 2W
		MISCELLANEOUS
S301	SP0403006	Push Switch
J301	YP1000099	Plug
J302	YP1000099	Plug
J303	YP1000099	Plug
J304	YP1000099	Plug
P650	YD2855008	P. W. B. Function Indicator
	ZZ2855008	P. W. B. Ass'y
		MISCELLANEOUS
M651	IN1006301	Lamp 6.3V 40mA
M652	IN1006301	Lamp 6.3V 40mA
M653	IN1006301	Lamp 6.3V 40mA
M654	IN1006301	Lamp 6.3V 40mA
M655	IN1006301	Lamp 6.3V 40mA
M656	IN1006301	Lamp 6.3V 40mA
J651	YP1000094	Plug
J652	YP1000094	Plug
J653	YP1000094	Plug
J654	YP1000094	Plug
J655	YP1000094	Plug
J656	YP1000094	Plug
J657	YP1000094	Plug
R003	RC1018012	Resistor 18Ω ±10% ½W
P750	YD2855001	P. W. B. Tone Control
	ZZ2855001	P. W. B. Ass'y
		RESISTORS
R751	RT0527314	27KΩ ±5% ¼W
R752	RT0527314	27KΩ ±5% ¼W
R753	RT0527314	27KΩ ±5% ¼W
R754	RT0527314	27KΩ ±5% ¼W
R755	RT0527314	27KΩ ±5% ¼W
R756	RT0527314	27KΩ ±5% ¼W
R757	RT0527314	27KΩ ±5% ¼W
R758	RT0527314	27KΩ ±5% ¼W
R759	RT0510414	100KΩ ±5% ¼W
R760	RT0510414	100KΩ ±5% ¼W
R761	RT0510414	100KΩ ±5% ¼W
R762	RT0510414	100KΩ ±5% ¼W
R763	RT0539314	39KΩ ±5% ¼W
R764	RT0539314	39KΩ ±5% ¼W
R765	RT0539314	39KΩ ±5% ¼W
R766	RT0539314	39KΩ ±5% ¼W
R767	RU0204001	Variable 200KΩ (B)

REF. DEISG.	MARANTZ PART NO.	DESCRIPTION
R768	RU0204001	Variable 200KΩ (B)
R773	GC1082418	820KΩ ± 10% 1/8W
R774	GC1082418	820KΩ ± 10% 1/8W
R775	GC1082418	820KΩ ± 10% 1/8W
R776	GC1082418	820KΩ ± 10% 1/8W
		CAPACITORS
C751	DF1615301	Film 0.015μF ±10% 50V
C752	DF1615301	Film 0.015μF ±10% 50V
C753	DF1615301	Film 0.015μF ±10% 50V
C754	DF1615301	Film 0.015μF ±10% 50V
C755	DF1615301	Film 0.015μF ±10% 50V
C756	DF1615301	Film 0.015μF ±10% 50V
C757	DF1615301	Film 0.015μF ±10% 50V
C758	DF1615301	Film 0.015μF ±10% 50V
C759	DD1520101	Ceramic 200PF ±5% 50V
C760	DD1520101	Ceramic 200PF ±5% 50V
C761	DD1520101	Ceramic 200PF ±5% 50V
C762	DD1520101	Ceramic 200PF ±5% 50V
P900	YD2855010	P. W. B. Balance Control
	ZZ2855010	P. W. B. Ass'y
		RESISTORS
R901	RT0533214	3.3KΩ ± 5% ¼W
R902	RT0533214	3.3KΩ ± 5% ¼W
R903	RT0533214	3.3KΩ ± 5% ¼W
R904	RT0533214	3.3KΩ ± 5% ¼W
R905	RX0203012	Variable 20KΩG
R906	RX0203012	Variable 20KΩG
R907	RS0203004	Variable 20KΩG
		MISCELLANEOUS
J901	YP1000099	Plug
J902	YP1000099	Plug
J903	YP1000099	Plug
J904	YP1000099	Plug
J905	YP1000099	Plug
J906	YP1000099	Plug
J907	YP1000099	Plug
J908	YP1000099	Plug
J909	YP1000099	Plug
J910	YP1000099	Plug
P250	YD2855002	P. W. B. Hi Filter, Tape Monitor
	ZZ2855002	P. W. B. Ass'y
		RESISTORS
R251	RT0547214	4.7KΩ ± 5% ¼W
R252	RT0547214	4.7KΩ ± 5% ¼W
R253	RT0547214	4.7KΩ ± 5% ¼W
R254	RT0547214	4.7KΩ ± 5% ¼W
R255	RT0510514	1MΩ ± 5% ¼W
R256	RT0510514	1MΩ ± 5% ¼W
R257	RT0510514	1MΩ ± 5% ¼W
R258	RT0510514	1MΩ ± 5% ¼W
R259	RT0510214	1KΩ ± 5% ¼W
R260	RT0510214	1KΩ ± 5% ¼W
R261	RT0510214	1KΩ ± 5% ¼W
R262	RT0510214	1KΩ ± 5% ¼W
		CAPACITORS
C251	DF1668201	Film 0.0068μF ± 10%
C252	DF1668201	Film 0.0068μF ± 10%
C253	DF1668201	Film 0.0068μF ± 10%

REF. DESIG.	MARANTZ PART NO.	DESCRIPTION
C254	DF1668201	Film 0.0068μF ±10%
		MISCELLANEOUS
J251	YP1000099	Plug
J252	YP1000099	Plug
J253	YP1000099	Plug
J254	YP1000099	Plug
J255	YP1000099	Plug
J256	YP1000099	Plug
S251	SP0403006	Push Switch
S005	SP0201010	Push Switch Power
G001	BF1040001	Printed Compo. 120Ω+0.1μF
R002	RG0204001	Resistor Variable 200KΩ B Volume
R001	RM0503050	Resistor Variable 50KΩ B Dimension
S003	SR0802002	Rotary Switch Remocon
S002	SR0905002	Rotary Switch Mode
4536	138200503	Clamper
S001	SR1205001	Rotary Switch Selector
4736	138200503	Clamper x2
J021	YJ0100055	Jack Headphone (Front)
R006	RJ1047001	Resistor 47Ω ±10% 1W
R007	RJ1047001	Resistor 47Ω ±10% 1W
J022	YJ0100055	Jack Headphone (Rear)
R004	RJ1047001	Resistor 47Ω ±10% 1W
R005	RJ1047001	Resistor 47Ω ±10% 1W
J008	YJ0800019	Jack Lamp Socket
J009	YJ0800019	Jack Lamp Socket
J010	YJ0800019	Jack Lamp Socket
J011	YJ0800019	Jack Lamp Socket
0411	285427401	Reflector x4
0412	285427101	Holder x4
0510	51100306A	B. H. M Screw x4
0511	54050300R	T. L. Washer OR x4
0512	51570306B	P. H. Tapt Screw x4
M002	IN1008007	Lamp Meter
M003	IN1008007	Lamp Meter
M004	IN1008007	Lamp Meter
M005	IN1008007	Lamp Meter
J007	YJ0800019	Jack Quad Indicator
0414	285327402	Reflector
0415	285327102	Holder
0517	51100306A	B. H. M. Screw
0518	51570306B	P. H. Tapt Screw
1126	62031650W	Lug Earth
M001	IN1008007	Lamp Quad Indicator
0422	285510901	Shield
0423	285512002	Insulator
0425	280312001	Insulator

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REF. DESIG.	MARANTZ PART NO.	DESCRIPTION
M006	IM1104205	DC Meter LF
M007	IM1104206	DC Meter RF
M008	IM1104205	DC Meter LR
M009	IM1104206	DC Meter RR
0603	285516001	Bracket
0610	145525903	Bush
0703	51100308S	B. H. M. Screw x8
0704	53110303E	Hexagon Nut x8
J017	YT0304003	Terminal Spk
J018	YT0304003	Terminal Spk
J019	YT0304003	Terminal Spk
J020	YT0304003	Terminal Spk
0707	51100308S	B. H. M. Screw x14
0708	53110303E	Hexagon Nut x14
J001	YT0206003	Terminal Aux Tape 1,2
J002	YT0206003	Terminal Aux Tape 1,2
J003	YT0204003	Terminal Aux Tape 1,2
J004	YT0204003	Terminal Tape Out 1,2
J005	YT0204003	Terminal Phono Tuner
J023	YT0204003	Terminal Pre Out Main In
J024	YT0204003	Terminal Pre Out Main In
0711	55060307F	T. R. Rivet x4
0712	54050300R	T. L. Washer OR x4
J025	YJ0400018	Jack AC Outlet
J026	YJ0400018	Jack AC Outlet
0716	53110403E	Hexagon Nut
0717	62041760W	Lug
0718	54020401E	Flat Washer P
0719	54050400R	T. L. Washer OR
J031	YL0301021	Socket Ground
0617	281805501	Collar x2
0725	51100312S	B. H. M. Screw x2
0726	53110303E	Hexagon Nut x2
J032	YJ0800012	Socket Fuse Holder
F001	FS1050003	Fuse 5 (A) UL 3AG
J034	YP1000097	Plug Pre Out/Main In
J035	YP1000097	Plug Pre Out/Main In
J036	YP1000097	Plug Pre Out/Main In
J037	YP1000097	Plug Pre Out/Main In
C001	DK1710301	Capacitor Ceramic 0.01μF 50V
C002	DK1710301	Capacitor Ceramic 0.01μF 50V
W001	YC0240010	AC Cord
0723	51100306S	B. H. M. Screw x2
0724	53110303E	Hexagon Nut x2
J012	YJ1100012	Jack
0616	285116007	Bracket
0621	285516003	Bracket

REF. DESIG.	MARANTZ PART NO.	DESCRIPTION
S004	SR0602009	Rotary Switch Spk. 4CH/2CH
J006	YJ0700006	Jack SQ Decoder
0911	285110450	Retainer K
1020	51100312S	B. H. M. Screw x2
A	285506340	Escutcheon Ass'y
0103	285506301	Escutcheon
0104	285540101	Frame
0105	285515801	Window
0106	281825905	Bush
0107	273125901	Bush x2
0109	285505301	Cover
B	281815440	Knob Ass'y
0118	281815404	Knob x2
0119	71400149Q	Spring x2
C	281815441	Knob Ass'y
0121	281815405	Knob x2
0122	71400159Q	Spring x2
0927	282100501	Clamper
0928	138200503	Clamper x11
W002	YW2855001	Wire Material
W003	YX2855001	Wire Material
0134	275905701	Leg x4
0313	51100410A	B. H. M. Screw x4
0314	54020401A	Flat Washer P x4
0315	54040402A	Spring Washer x4
0729	51100306S	B. H. M. Screw x2
0903	285510550	Chassis K
0923	285510103	Support x2
0918	285110101	Support x2
6336	138200503	Clamper x3
1003	51570306B	P. H. Tapt Screw x10
1004	51100306S	B. H. M. Screw x6
1007	51570306B	P. H. Tapt Screw x8
1011	51100512A	B. H. M. Screw x4
1012	53110501A	Hexagon Nut x4
1013	54040502A	Spring Washer x4
1014	54020501A	Flat Washer P x4
1016	53110303E	Hexagon Nut x2
1017	54040302N	Spring Washer x2
1019	51100306S	B. H. M. Screw x2
1022	54040402N	Spring Washer x2
1026	51100306S	B. H. M. Screw x4
1027	51100306S	B. H. M. Screw x4
1028	51100306S	B. H. M. Screw x4

REF. DESIG.	MARANTZ PART NO.	DESCRIPTION
1029	51100306S	B. H. M. Screw x4
1030	51100306S	B. H. M. Screw x4
1031	51100306S	B. H. M. Screw x2
1103	51570408B	P. H. Tapt Screw x4
1104	54020401E	Flat Washer P x4
1123	51570306B	P. H. Tapt Screw x7
1124	51570306B	P. H. Tapt Screw x10
1125	54050300R	T. L. Washer OR x10
C003	EC2090501	Capacitor Electroly 20000μF 50V
C004	EC2090501	Capacitor Electroly 20000μF 50V
L001	TS6140302	Power Transf.
J033	YL0103002	Terminal 3P
1108	51570306B	P. H. Tapt Screw x2
1109	51570306B	P. H. Tapt Screw
6436	62031650W	Lug x3
0112	281815401	Knob x6
0113	281815402	Knob
0114	285015401	Knob x3
0115	281815403	Knob x5
0124	285525701	Lid
0125	257711803	Spacer x4
0127	285525750	Lid K
0130	285125703	Lid
0131	285712001	Insulator
0132	285512001	Insulator x2
0133	288312001	Insulator
0135	51216059E	Screw x4
0202	285526501	Indicator
0211	257886101	Label UL CAUTION
0212	257886102	Label Do not Remove Cover
0213	257886103	Label See Marking on Bottom
0220	282186102	Label Fuse Caution
0303	51122608E	T. H. M. Screw x4
0305	51100406S	B. H. M. Screw x9
0309	51100406S	B. H. M. Screw x4
0310	54020401S	Flat Washer P x4
0730	51100306S	B. H. M. Screw x2
0417	285500701	Strip
0431	285530201	Dial
0221	285386101	Label
1202	285585101	Instructions
1209	285585601	Schematic Diagram
1217	281885104	Instructions
1219	282885108	Instructions
1223	257785450	Guarantee Card K
1302	285580101	Packing Case
1303	285580111	Packing Case
1308	285580301	Partitioner
1309	285580302	Partitioner

REF. DESIG.	MARANTZ PART NO.	DESCRIPTION
1312	901403540	Polyethylen Bag
1314	901302501	Polyethylen Bag x2
1317	102980401	Sleeve
1319	273182101	Silicagel x2
1322	952281501	Serial NO Card x4

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TECHNICAL SPECIFICATIONS

AUDIO SECTION

Input Impedance – Low level input ..... Phono 47K ohm
– High level input ..... 100K ohm
Input Sensitivity – Phono ..... 1.8mV for 25W output
– High level ..... 180mV for 25W output
Frequency Response ..... 1.0dB, 20Hz to 20KHz at 1W output
Intermodulation Distortion ..... Less than 0.3% at rated power output from 20Hz to 20KHz with all channelsdriven (S.M.P.T.E)
Total Harmonic Distortion ..... Less than 0.3% at rated power output 20Hz to 20KHz with all channels driven
Damping Factor ..... Greater than 45 into 8 ohms load
Total Noise – From magnetic phono input to power amp output ..... Less than 2.8μV equivalent input at rated output into 8 ohmsload
Volume Tracking ..... Within 3dB
Rated Continuous (RMS) Output per channel, all channels operating simultaneously ..... 25W at 4 and 8 ohms 15W at 16 ohms
Comparable Total Music Power (IHF) ..... 150W at 8 ohms

GENERAL

Power Requirements ..... 120V AC 50 to 60Hz
Power Consumption – at rated power output, all channels ..... 400 watts
– idling (no signals) ..... 30 watts
Dimensions – Panel Width ..... 15-3/8 inches
– Panel Height ..... 5-3/4 inches
– Depth ..... 14-3/8 inches
Weight – Unit alone ..... 33 lbs
– Packed for shipment ..... 44 lbs

* These specifications and exterior designs may be changed for improvement without advance notice.

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